EdData II

Student Performance in Reading and Mathematics, Pedagogic Practice, and School Management in Jordan

EdData II Technical and Managerial Assistance, Task Number 16
Contract Number: AID-278-BC-00019
August 2012

This publication was produced for review by the United States Agency for International Development. It was prepared by RTI International.

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Task Order No. 16

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Abbreviations

clspm	correct letter sound per minute
cnonwpm	correct nonword per minute [correct invented word per minute]
COR	Contracting Officer's Representative
cwpm	correct word per minute
EFA	Education for All
EGMA	Early Grade Math Assessment
EGRA	Early Grade Reading Assessment
EMIS	Education Management Information System
ERfKE	Education Reform for the Knowledge Economy
GDP	Gross Domestic Product
GOJ	Government of Jordan
HT	Head Teacher
MDG	Millennium Development Goal
MOE	Ministry of EducationMSA Modern Standard Arabic
NAfKE	National Assessment for a Knowledge Economy
NGO	nongovernmental organization
ORF	oral reading fluency
PTA	Parent-Teacher Association
QIS	Quality of Instruction Scale
RTI	Research Triangle Insitute (RTI International)
SES	Socioeconomic Status
SSME	Snapshot of School Management Effectiveness
TIMSS	Trends in International Mathematics and Science Study
TO	Task Order
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNRWA	United Nations Relief and Works Agency
US	United States
USAID	Unted States Agency for International Development

Acknowledgments

The authors wish to acknowledge the important contributions of the education staff from USAID/Jordan and Jordan's Ministry of Education (MOE), for their participation in the adaptation and design of the EGRA, EGMA, and SSME instruments. Proper alignment of these instruments to the Jordanian context would not have been possible without their participation. In particular, we wish to thank Eng. Firyal Aqel, Director of the Donor Coordination Unit, who opened the necessary doors for this survey to take place. We wish to thank the MOE staff who were part of the field teams who collected this survey data. We are also grateful to Khalid Dajani and Samer Ghannam, together with their capable team at Dajani Consulting, Inc., for leading the data collection effort and for managing the logistics and operations of this study. We wish to extend thanks to Dr. Jehad Anati, Dr. Muna Amr, Dr. Osama Jaradat, and Mr. Khaled Arabiat for their contributions to the development of the study instruments and their participation in the adaptation and training workshops. We are grateful to Adnan Al-Harazi of Prodigy Systems, Inc., along with his programming staff, who made possible the electronic collection of data in the field. Additionally, we wish to acknowledge and thank the editor of this report, Ellen Lohr-Hinkel, for her critical assistance in its completion. Most importantly, this work could not have succeeded without the cooperation and contributions of the School Principals, teachers, students, and communities included in the study, who, for obvious reasons, must remain anonymous.

Executive Summary

Education Background

The many reforms and investments Jordan has made in recent years have proven its commitment to providing students with a quality education. This commitment has enabled Jordan to make great strides as the country has worked to meet the international Millennium Development Goals. The primary net enrollment rate was 91% in 2010, according to the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics (UIS), and primary completion rates are rising. Jordan is ranked 18th out of 94 countries in terms of gender equality in the "Education for All" rating by UNESCO. As more countries are able to achieve their school access goals it is understandable that greater attention is being placed on the quality of the learning that is taking place in schools.

Though standardized tests in Jordan provide policy makers with insight into performance among students across grades, and similarly, the Trends in International Mathematics and Science Study (TIMSS) assesses the performance of grade 8 students, there are currently no standardized tests applied in Jordan to evaluate student performance on foundational skills in the early grades.

Purpose and Design of the Assessment

Assessments of pupil learning in the primary grades, such as the Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA), offer an opportunity to determine whether children are developing the fundamental skills upon which all other literacy and mathematical skills build, and, if not, where efforts might be best directed. This is vital information for countries that are working to improve the quality of education in their schools.

Of equal importance to understanding how well children have mastered foundational skills is an understanding of why certain schools succeed in teaching these foundational skills while others do not. The Snapshot of School Management Effectiveness (SSME) provides a multifaceted view of school and classroom characteristics traditionally associated with pupil performance.

To gain insight into both student facility with foundational skills and to better understand characteristics among Jordanian schools associated with this performance, USAID/Jordan, in partnership with the Jordan Ministry of Education (MOE), contracted with RTI International under the Education Data for Decision Making (EdData II) project to conduct the SSME, including the EGRA and EGMA, in a sample of primary schools in Jordan. The hope is that evidence-based information resulting from the survey can inform future education policy decisions, as needed.

The instruments used in this project—the National Early Grade Literacy and Numeracy Survey in Jordan—were adapted specifically for the Jordanian context during an adaptation workshop with the Ministry of Education. RTI's education specialists worked together with local Jordanian reading, math, and primary school experts and officials to design abbreviated versions of the Early Grade Reading Assessment (EGRA) and the Early Grade Mathematics Assessment (EGMA), using curriculum materials for grades 2 and 3. In addition to administering individual oral assessments of students, RTI and its local partner, Dajani Consulting, sent research teams to interview School Principals and teachers, conduct inventories of school and classroom resources, and observe reading and math lessons as part of the SSME survey.

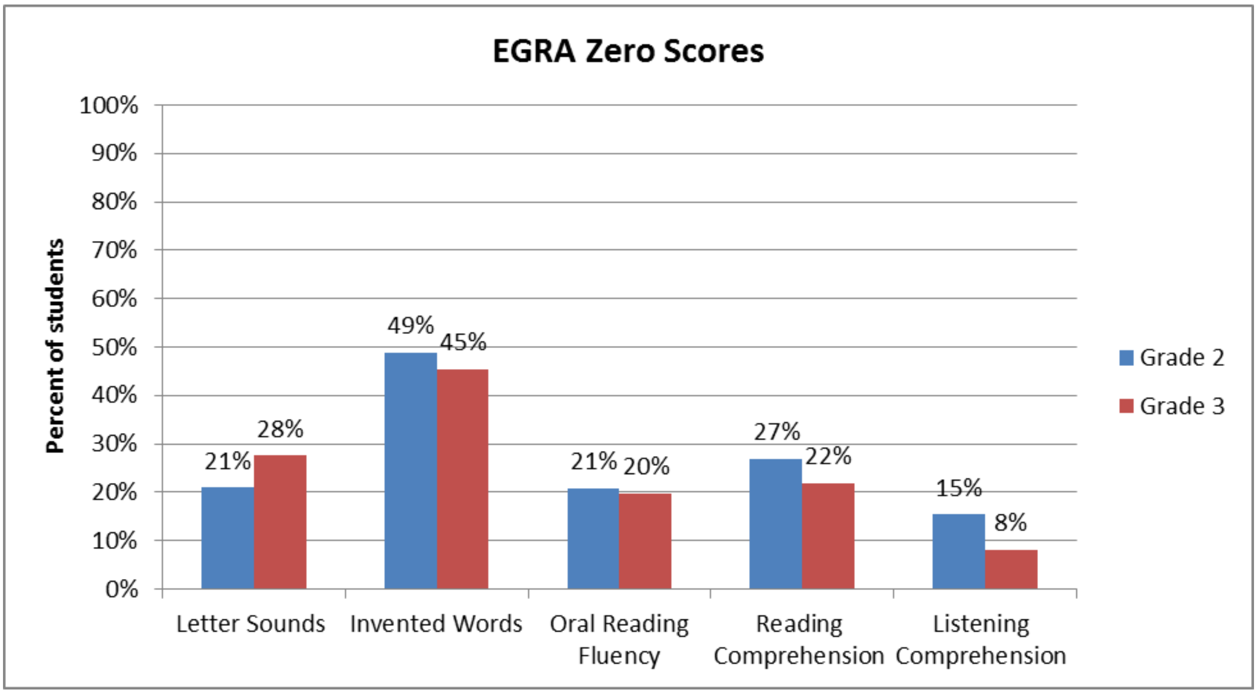
After a week-long training workshop in March 2012, research teams, composed of Dajani staff and contractors as well as Ministry of Education (MOE) staff members, visited a total of 156 public primary schools across Jordan. In each school, a grade 2 and a grade 3 teacher was randomly selected, and 10 students from each of these classes were randomly selected to take the EGRA and EGMA and to be interviewed about their experience with school. A total of 3,120 students were selected for participation in the assessments and interview. The selected teachers were interviewed, as was the School Principal, and a researcher observed the selected grade 2 teacher teach a reading lesson and a math lesson. Researchers also took inventory of the school grounds and the selected classrooms. Data collection was completed at the end of May 2012.

How Well Are Students Learning to Read?

The EGRA, which was administered orally in Modern Standard Arabic (MSA), consisted of five subtasks: (1) letter-sound knowledge, (2) invented word decoding, 3) connected text oral reading fluency, (4) reading comprehension, and (5) listening comprehension. Letter-sound knowledge and the ability to read unfamiliar single-syllable words are foundational skills needed for fluent reading and comprehension. All subtasks except for reading comprehension and listening comprehension were timed to assess whether students had achieved a desired level of automaticity in these skill areas. Timed subtasks are scored as correct letters per minute (clpm) or correct words per minute (cwpm), while untimed tasks are scored as total items correct out of 6 possible items. Overall, there was progression in performance from grade 2 to grade 3 on most EGRA subtasks.

No.	Subtask	Grade 2 average	Grade 3 average	Overall average
1	Letter-sound knowledge (clpm)	26.5	26.3	**26.4**
2	Invented word decoding (cnonwpm)	4.4	7.0	**5.7**
3	Oral reading fluency (ORF) (cwpm)	15.2	23.7	**19.4**
4	Reading comprehension (max 6)	2.0	2.9	**2.5**
5	Listening comprehension (max 6)	2.2	2.9	**2.5**

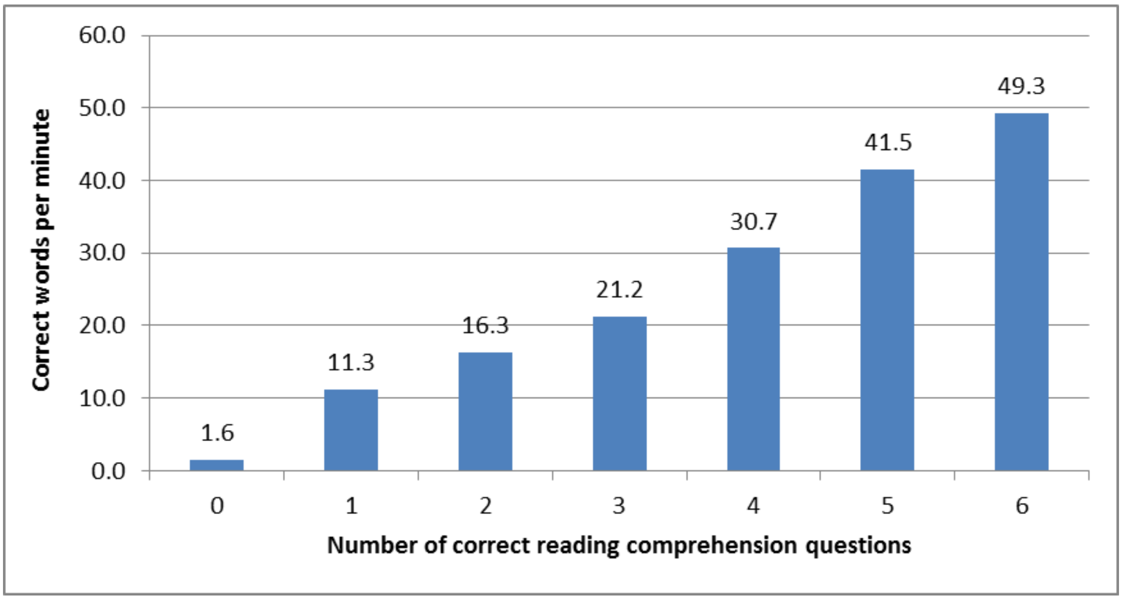
For the oral reading fluency (ORF) task, students were asked to read a short narrative story as quickly and accurately as they could. Researchers used the results of this task to estimate ORF rates. On average, grade 2 students read 15.2 cwpm, while grade 3 students read 23.7 cwpm, indicating progression in performance from grade 2 to grade 3. A fairly substantial proportion of students were unable to answer a single item correctly on the EGRA subtasks. Students found the invented word subtask particularly challenging, and this is reflected in the relatively larger share of zero scores on this subtask (please see the figure below for percentage of students with zero scores).[1]



Research has shown that readers must read with a minimum speed in order to understand what they have read. The relationship between reading fluency and comprehension is clearly shown in the following graph, with students who were

[1] Mean scores increase, understandably, when zero scores are excluded from the mean calculation. When zero scores were removed, the ORF rate rose to 18.1 cwpm for grade 2 and 26.2 cwpm for grade 3.

unable to answer a single comprehension question reading at a speed of fewer than 2 correct words per minute, and those able to answer all six questions correctly reading at a speed of 49.3 correct words per minute. It is generally accepted that a child reads with comprehension when they can correctly answer 80% or more of their reading comprehension questions. Students, who were able to answer 5 of the 6 comprehension questions correctly (scoring 83% on this subtask) were reading at an average fluency rate of 41.5 correct words per minute



As reported above, the *average* reading speeds recorded were well below this rate and therefore, too slow to permit students to be reading with true comprehension. As a result, student performance on the comprehension questions was not as strong as curricular guidelines would require. On average, grade 2 students were able to answer just two of the six untimed comprehension questions correctly, while grade 3 students were able to correctly answer fewer than three (2.9) of the six questions.

The reported reading speeds and comprehension scores are not surprising given student performance on the foundational reading skill subtasks. On average, grade 2 and grade 3 students scored virtually the same on the letter sounds subtask: at 26.5 letter sounds per minute for grade 2 and 26.3 letter sounds per minute for grade 3. On the invented word decoding subtask, grade 2 students were able to correctly read fewer than 5 invented words per minute and grade 3 students correctly read 7 invented words per minute. Strong ability with these foundational skills is essential for strong readers. The relationship that exists between students' foundational reading skills and reading fluency indicates that students' knowledge of letter sounds and decoding skills should be strengthened to improve their oral reading fluency and comprehension.

Regional differences in reading scores were not large, although two subtasks—invented word decoding and listening comprehension—showed statistically significant differences. In the invented word subtask, students scored on average 7 words per minute in the North, 6.6 in the South, and 4.6 in the Middle region of the country. In listening comprehension, students scored 2.3 (out of 6) in the North, 2.5 in the South, and 2.6 in the Middle. Differences in performance by gender show that girls tend to outperform boys, with girls able to read 6.3 invented words per minute, compared with boys' score of 4.9. Girls' ORF scores were 22.2 cwpm, while boys scored 16.1 cwpm. Girls also performed better in reading comprehension, with an average score of 2.8 versus boys' score of 2.1.

Observation of grade 2 reading lesson instructional content in the visited schools revealed that the largest proportion of lesson time was spent on reading texts (20% of lesson time) and reading comprehension (47%), activities that indeed the curriculum does require. Very little time was spent on letter sounds (1%) or reading isolated words (5%), which is not surprising with a curriculum that focuses on these skills only in grade 1 and expects that by grade 2, students should be reading connected texts.

These observations, combined with the EGRA scores described above, suggest that teachers may be adhering strictly to the curriculum, steadily progressing towards its completion, regardless of their students' understanding of the material covered. Supporting this possibility is the finding that, although 68% of teachers reported that they measure their students' academic progress through written tests and 48% said they give oral evaluations, only 22% of teachers said that they use the results of these measurements to plan teaching activities or adapt their teaching to meet their students' needs. When asked how they treat students who are struggling in class, although 63% of teachers reported that they concentrate on the weaker student, classroom observations revealed that teachers spent the majority of the lesson focused on the entire class or calling on individual students to participate; virtually no time was spent working one-on-one with a student. Finally, when asked whether they had received any specific pre-service training in how to teach reading, less than 40% of teachers responded that they had, and reliable anecdotal information about teacher-training programs indicates that subject-specific training of this kind is not strongly emphasized or offered for primary school teachers in their training. These findings suggest that Jordan's teachers would benefit from expert, targeted training in the foundations of literacy and in how to more successfully teach students to read.

How Well Are Students Learning to Do Basic Mathematics?

Students' understanding of foundational math skills was orally evaluated using the EGMA, which consists of six subtasks: number identification, quantity discrimination, missing number (number patterns), addition and subtraction (level 1), addition and subtraction (level 2), and word problems. The level 1 addition and subtraction problems were procedural in nature and involved single- and double-digit problems with sums/differences below 20, for which students were asked to solve the problems without using paper and pencil, and then give their answer. Level 2 addition and subtraction problems were more difficult, and required students to grasp mathematical concepts such as the bridging of tens. For these problems, students were permitted to use a pencil and paper to work out the solution. For each subtask, except for the word problems, students were asked to complete as many items as they could within a time limit, and both accuracy (number of correct items from items attempted) and automaticity (number of correct responses per minute) scores are reported. As with EGRA, by timing how quickly students perform these tasks, EGMA evaluates whether students have achieved a desired level of automaticity in these skill areas.

The skills tested in the EGMA subtask s are skills that Jordanian students should be familiar with given the curricular guidelines.

As with EGRA, almost all EGMA subtasks indicated progression in student performance from grade 2 to grade 3, with the greatest improvement seen on the missing number and word problems subtasks.

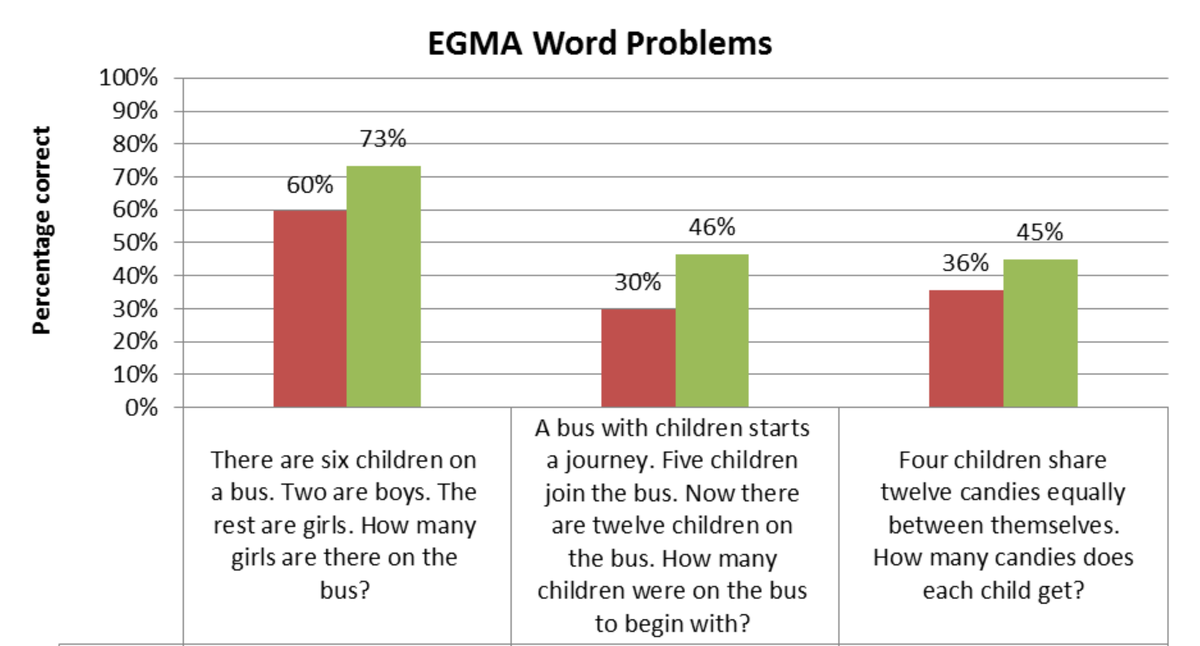
Subtasks	Grade 2		Grade 3	
	# Correct/ minute	% Correct/ attempted	# Correct/ minute	% Correct/ attempted
Number identification	32.1	88.6%	37.8	92.6%
Quantity discrimination	8.7	70.9%	10.6	77.5%
Missing number	4.8	56.6%	6.0	64.8%
Addition (level 1)	13.6	83.6%	14.6	81.6%
Addition (level 2)	2.4	52.7%	2.9	54.8%
Subtraction (level 1)	11.4	79.4%	12.1	75.9%
Subtraction (level 2)	1.3	32.0%	1.8	35.3%
Word problems	--	39.2%	--	52.2%

Although students appear to answer the more procedural level 1 addition and subtraction items with confidence—83.6% for addition and 79.4% for subtraction in grade 2, and 81.6% for addition and 75.9% for subtraction in grade 3—student performance drops by 31% (in grade 2) and 27% (in grade 3) from level 1 addition to level 2 addition, and by more than 47% (in grade 2) and 41% (in grade 3) from level 1 subtraction to level 2 subtraction. Lesson plans for Jordan stipulate that grade 2 students should be able to answer three and four-digit-number addition and subtraction problems. In grade 3, students should be able to answer 5-digit-number addition and subtraction problems. However, the 2-digit addition and subtraction problems proved challenging to the sampled students. Grade 2 students correctly answered only 52.7% of the level 2 addition problems and 32% of the subtraction problems. Similarly, grade 3 students correctly answered 55% of the level 2 addition problem and 35% of the level 2 subtraction problems.

Quantity discrimination measures students' ability to make judgments about differences by comparing quantities. Students were asked to compare single- and double-digit numbers, and to say which was the larger of the two numbers. For example, in comparing 15 and 20, the correct response was 20. Within the time allotted, grade 2 and grade 3 students were able to answer an average of 8.7 (grade 2) and 10.6 (grade 3) quantity discrimination problems correctly. With an accuracy rate of 70.9% for grade 2 and 77.5% for grade 3 on quantity discrimination problems, and a tendency to struggle more with larger numbers, students nevertheless demonstrated awareness of the role of place value, even if they had difficulty with the larger items of the subtask.

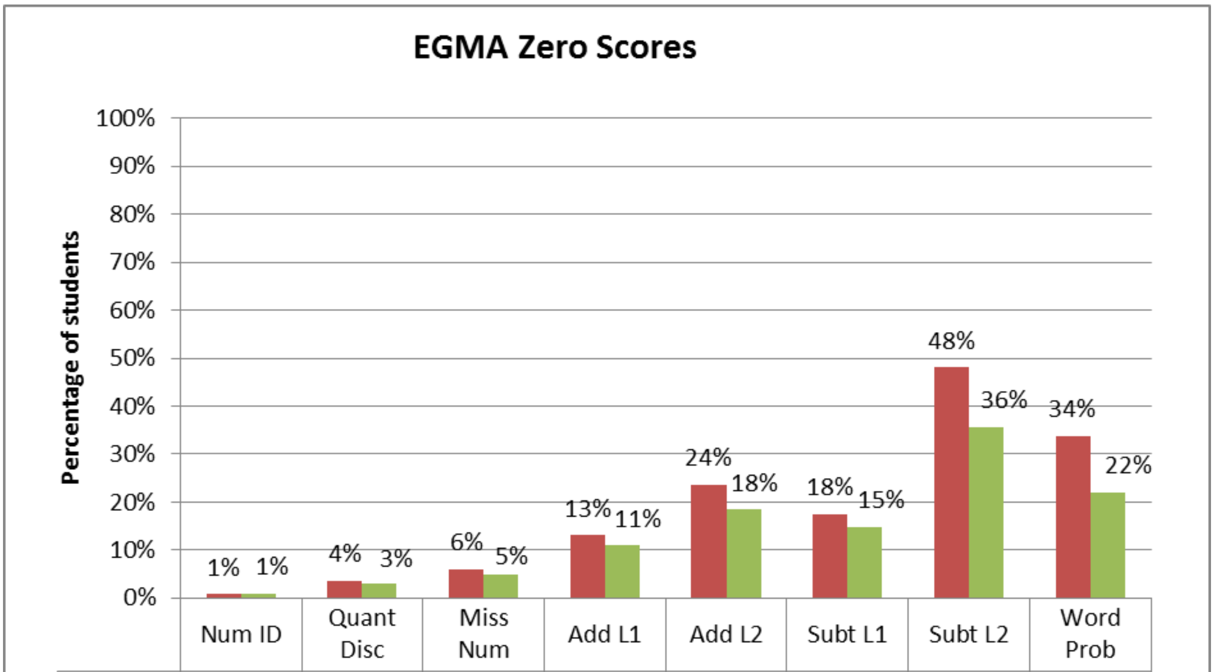
Solving the missing number problems in the EGMA subtask involves studying the evidence available and using this to determine the step size of the pattern, as well as whether the pattern is increasing or decreasing, and then determining the missing number by extending the existing pattern. Students appeared to find this subtask more challenging, with grade 2 students able to answer an average of 4.8 problems per minute and grade 3 students able to answer 6 problems per minute. The accuracy rate was also relatively low on this subtask with grade 2 students responding correctly on 56.6% of the attempted questions and grade 3 students responding correctly 64.8% of the time.

For the word problems subtask, students were given three scenarios, each requiring them to interpret a situation, make a plan, and solve a problem. The numerical values within this subtask were small so that the actual skill being assessed was students' critical and conceptual problem solving skills. On the first and simplest word problem, 60% of grade 2 students and 73% of grade 3 students answered correctly. On the second word problem, 30% of grade 2 and 46% of grade 3 arrived at the correct answer. For the third word problem, 36% of grade 2 students and 45% of grade 3 students gave the correct answer. In the word problems subtask, students showed more capacity for conceptual mathematical thinking than they did for the other, conceptually-oriented subtasks, such as missing number and level 2 addition and subtraction. A possible reason for this difference in performance could be that students are being taught more about mathematical procedures (i.e., rules and memorized facts) than about how to understand mathematical concepts. Word problems, as opposed to straightforward numerical problems, can have the effect of liberating students' minds from the procedural manner of thinking, allowing them to decipher a solution more conceptually or intuitively.



	There are six children on a bus. Two are boys. The rest are girls. How many girls are there on the bus?	A bus with children starts a journey. Five children join the bus. Now there are twelve children on the bus. How many children were on the bus to begin with?	Four children share twelve candies equally between themselves. How many candies does each child get?
Grade 2	60%	30%	36%
Grade 3	73%	46%	45%

Only a small percentage of students received zero scores on the number identification, missing number and quantity discrimination sections. Not surprisingly, the incidence of zero scores was highest on the subtraction level 2 subtask.



	Num ID	Quant Disc	Miss Num	Add L1	Add L2	Subt L1	Subt L2	Word Prob
Grade 2	1%	4%	6%	13%	24%	18%	48%	34%
Grade 3	1%	3%	5%	11%	18%	15%	36%	22%

Overall, students performed best on single-digit items that required little critical or conceptual thinking to establish and complete the problem or pattern. These EGMA results in Jordan suggest that memorization plays a large role in the way that children know and learn mathematics. This suggestion is supported by the clear trend in the results showing students doing well on the items that rely on procedural knowledge—knowledge that can also be memorized—and markedly less well on the tasks and items that require both the understanding and the application of what should be procedural (rather than memorized) knowledge.

When researchers visited Jordanian schools during this survey, observations of grade 2 math lessons confirmed that teachers were closely following the curriculum schedule, as they were primarily teaching multiplication and division, as is expected at the time of year (near the end) that the visits took place. Very little time was spent on addition or subtraction, although this is not surprising, because these subjects are scheduled to be taught earlier in the year. However, as with the reading lessons, it is likely that in math lessons teachers may not be adjusting their lessons according to the performance levels of their students, but rather are moving forward to finish the curriculum. Additionally, the evidence from the EGMA results that point toward a lack of conceptual understanding among students seems to indicate that teachers could benefit from targeted training in how to teach fundamental mathematical concepts to early grade students. As with reading, only 39% of teachers reported receiving math-specific pre-service training.

Thus, in addition to teachers needing more targeted training in how to teach reading, as suggested above, teachers would also benefit from more math training. Specifically, students will likely perform better if there is a shift from teaching math as primarily *the memorization of facts, rules, formulas, and procedures needed to determine the answers to questions* to teaching it as a *meaningful, sense-making, problem-solving activity*.

Finally, for both reading and math lessons, encouraging teachers to more routinely use assessment results when developing lesson plans and to tailor lessons to match students' particular needs would help to ensure that students are able to successfully master curricular content. Policy makers and school administrators may need to introduce more flexibility into the curriculum and emphasize learning outcomes more than curricular progression, so that teachers feel supported when they adjust their lessons to meet the needs of their students.

Characteristics of Strong Performing Classrooms

As mentioned above, the SSME is designed to give school administrators and policy makers a comprehensive yet quick picture of how schools are performing and which school characteristics may be associated with stronger or weaker performance. In addition to some of the teaching practice issues mentioned above, key characteristics are associated with strong performing classrooms in Jordan. In an effort to identify some of the salient features of these strong performing classrooms, grade 2 and grade 3 classes were separately ranked according to their averaged performance on the reading subtasks. The classes that performed at or above the 75th percentile were classified as being “strong performing” classes.

In the analysis, the top-income quartile classes were excluded because greater school resources and wealthier families tend to mask some of the in-school features associated with stronger performance. It was important to identify classes with high performing students who do not have the advantage that wealthier students may have. In addition to excluding the wealthiest income classes, we controlled for school location (urban/rural and region), school gender (all girls, all boys, and mixed), and class size.

This analysis showed that there are certain classroom, school, and teacher characteristics that were associated with the stronger performing classes. A few of these characteristics are listed as follows.

Teachers from strong classrooms:

- Were more likely to respond constructively and not punitively when students were unable to answer a question correctly;
- Taught students whose exercise books were at least 50% completed;
- Were more likely to have received specific pre-service training in how to teach reading and math, and were more likely to use homework and worksheets as one of their student assessment methods; and
- Were more likely to be satisfied with parental involvement and were more likely to use non-textbook reading books in their classrooms.

Stronger classrooms also:

- Were more likely to have been supported by the Ministry of Education (MOE) due to receiving more frequent education supervisor visits (every 2 to 3 months during the year);
- Had a School Principal who reported receiving visits from the MOE in response to school requests; and
- Were also more likely to have School Principals who orally evaluated students themselves, likely indicating closer School Principal involvement in classroom activities.

Conclusions

These assessments indicate that while students are quite comfortable with some of the procedural mathematics skills, their conceptual understanding needs to be strengthened by well-trained teachers. Similarly, although some students are reading with a high level of fluency and understanding, achieving 80% or more on their comprehension scores, the majority of students are not reading with fluency and lack strength in the foundational literacy skills normally taught in grade 1, revealing a disconnect between the curriculum and student learning outcomes. The SSME has identified potential areas that are associated with stronger performing schools. Greater flexibility in the application of the curriculum, greater use of assessment results to guide lesson planning, and more constructive involvement by teachers, School

Principals, MOE officials, and parents could all work to help improve student performance. An open discussion with education stakeholders is needed to determine how best to move forward constructively with this information.

1. Background

1.1 Jordan Country Context

The Hashemite Kingdom of Jordan is seen by many outside the country, especially from the West, as a principal voice for moderation and relative peace in the Middle East, despite its difficult geographic position. Being neighbor to Iraq, Syria, the Palestinian Territories, Israel, and Saudi Arabia, Jordan is in frequent contact with regional turbulence that affects its political, social, and economic climate. The nation's reputation as a kind of Switzerland of the Middle East is a mixed blessing, as its stability attracts a constant influx of refugees from nearby conflict states. Most recently, Jordan has offered refuge to tens of thousands of Syrians fleeing the violence that has erupted in their homeland. While international humanitarian organizations are able to provide basic resources for many refugees, the swelling population causes strain to Jordan's infrastructure, government services, and natural resources, such as water.

However, while tensions within the country have not escalated to the level of many of its neighbors, nevertheless many of Jordan's citizens would seem to welcome some reforms. King Abdullah II has pushed for reform on several fronts over the 13 years of his reign, especially for the need for a more open, multi-party political system. One such major effort was the development of the National Agenda in 2005. The King gathered together "an inclusive committee of personalities from political parties, parliament, media, civil society, the private sector, and the government, who represented a wide spectrum of political, economic, and social ideologies." Together, they drafted a document promoting numerous new programs and initiatives designed to move the country forward, with detailed "timelines, performance indicators, and links to the budget."[2] On paper, Jordan's economy has performed well over the past seven years, with an average annual growth rate of 4 to 6%. The 2011 Annual Index of Global Economic Freedom ranks Jordan 38th out of 183 countries in the survey or 4th among the 17 Middle East/North African countries surveyed. However, despite these figures, high unemployment and deep pockets of poverty persist. Jordan's population growth is among the highest in the region, and nearly 70% of the population is under the age of 30. Youth unemployment is particularly high, even among those with high educational attainment; jobs are not being created fast enough to absorb the growing workforce, where the unemployment rate among youth was estimated at 27% in 2009.[3] The National Agenda proposed reforms that are designed

[2] Marwan Muasher, "A Decade of Struggling Reform Efforts in Jordan: The Resilience of the Rentier System," Carnegie Endowment for International Peace, May 2011, p1.

[3] World Bank databank, http://databank.worldbank.org/ddp/html-jsp/QuickViewReport.jsp?RowAxis=WDI_Ctry~&ColAxis=WDI_Time~&PageAxis=WDI_Series~&PageAxisCaption=Series~&RowAxisCaption=Country~&ColAxisCaption=Time~&NEW_REPORT_SCALE=1&NEW_REPORT_PRECISION=0&newReport=yes&IS_REPORT_IN_REFRESH_MODE=true&IS_CODE_REQUIRED=0&COMMA_SEP=true, viewed on November 8, 2007.

to significantly liberalize Jordan's economy, changes that "would almost double real per-capita income, reduce unemployment by half, and convert the budget deficit from about 11% of the gross domestic product (GDP) into a surplus of 1.8% by 2017."[4] To date, however, the committee's plans have gained little to no ground.

About 60,000 new jobs and continued strong growth of 7% or more would be needed each year to avoid higher levels of unemployment and poverty. Poverty reduction and job creation thus remain Jordan's most important challenges. In full recognition of the challenges facing its economy and realizing the connection between jobs creation and education, in 2003 the Government of Jordan (GOJ) embarked on designing and implementing an ambitious education reform program known as the Education Reform for the Knowledge Economy (ERfKE), which will be described further in the next section.

1.2 Education Context

In line with the international Millennium Development Goals (MDGs), Jordan has made steady progress in raising primary education completion rates and eliminating gender disparities in education. In 2010, the primary net enrollment rate was 91%, while the secondary net enrollment rate was 86%.[5] In both primary and secondary education, these rates are significantly above the regional average. Youth literacy (age 15 to 24) is nearly 100%. Access to early childhood education has surged over the past several years. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) ranked Jordan 18th out of 94 countries in the "Education for All" rating for gender and education, indicating that Jordan provides equal learning opportunities for males and females.

High levels of government commitment have contributed to such progress. Jordan spends nearly 14%of total government expenditure on education, higher than the average for countries with similar population sizes and income levels. The majority of education expenditures are targeted to basic education, which receives around 72% of total education expenditure.[6]

Although the Ministry of Education (MOE) is financially responsible only for the public schools, private schools are also subject to governmental rules and regulations for quality assurance and licensing. Jordan's public schools account for 60% of the total of 5,498 schools, and these include a small number of schools operated by the United Nations Relief and Works Agency (UNRWA) and nongovernmental organizations (NGOs). The private sector is vibrant and relatively large at 40% of the total number of schools, but only serves 20% of the total number of Jordanian

[4] Ibid., p13.

[5] UNESCO Institute for Statistics, Jordan country profile, http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=eng&BR_Country=4000&BR_Region=40525, viewed on November 8, 2010.

[6] UNICEF Country Statistics, http://www.unicef.org/infobycountry/jordan_statistics.html#79, viewed on July 13, 2012.

students, as each school tends to be smaller than the public equivalent. Private schools hire almost 25% of the total number of teachers in the country.

Despite the very high enrollment rates and the accessibility to private and public schools across the Kingdom, the quality of education remains uneven. The average achievement in urban areas is higher than that in the rural and more remote areas. Jordan participates in a number of international tests to give itself the advantage of both regional and international comparability. Jordan's results in Trends in International Mathematics and Science Study (TIMSS) in the three years it participated—1999, 2003, and 2007—show considerable scope for improving the quality of education and transforming teaching techniques and approaches. Although Jordan's grade 8 students ranked first in science and second in mathematics among Arab countries on the 2007 TIMSS test, the score falls below the international average in mathematics and is only two points above the international average in science. Furthermore, while Jordan showed slight improvement in its science scores between 1999 and 2003, it showed decline in its mathematics scores during the same period.[7]

In addition to education quality, Jordan faces another relevant education issue. For many years, the curriculum and teaching techniques remained unchanged, and students received an education that did not adequately prepare them with the skills required in an evolving world. Specifically, a gap emerged between what was taught at school and what was required by the labor market. As mentioned earlier, the ERfKE was initiated in 2003and is a 10-year, US$500 million multi-donor program to strengthen and integrate critical thinking, problem-solving, workplace skills, and e-learning approaches into Jordan's core education curricula.[8] A World Bank report gives an overall rating of "satisfactory" to the outcome of project objectives during the first phase of the project from 2003–2008, citing the "generic and broad" nature of the project's goals and acknowledging that "some reform areas are quite challenging,…[t]hus, more time and continuous effort are needed to fully harvest the real fruits of such large-scale reform."[9] Phase 2 of the project is currently underway.

Supporting this reform is Jordan's National Assessment for a Knowledge Economy (NAfKE) that, since 2006, tests students in math, science, and Arabic in grades 5, 9, and 11 on a two-year cycle.[10] NAfKE was developed by Jordan's National Center for Human Resource Development in full collaboration with the MOE. The 2010 NAfKE study was postponed to 2011 because of the delayed launch of the second phase of ERfKE, with plans to follow up in 2013 and 2015.
Informal conversations with Jordanian teachers gave some indication that the ERfKE reforms have not been fully adopted in schools yet. Teachers indicated that they frequently see new initiatives brought into schools, but these are usually implemented

[7] Millennium Challenge Corporation 2008 Scorecard.

[8] World Bank, http://web.worldbank.org/external/projects/main?pagePK=104231&theSitePK=40941&menuPK=228424&Projectid=P075829, viewed July 13, 2012.

[9] World Bank, Implementation Completion and Results Report, December 2009, p16.

[10] In addition to NAfKE, every two years since 1993 Jordan's MOE has administered a sample-based national test to measure progress in grades 4, 8, and 10.

only as long as targeted funding is available, after which time schools usually revert back to the way they were before the initiatives. At the same time, teachers did notice a generational divide in teaching methods, with recent graduates of teacher-training programs bringing new methodologies into the classrooms.

2. Evaluation Approach

2.1 Research Questions and Assessment Design

In late 2011, USAID/Jordan contracted with RTI International under the Ed Data II project to conduct the Snapshot of School Management Effectiveness (SSME), a package of survey instruments that includes abbreviated versions of the Early Grade Reading Assessment (EGRA) and the Early Grade Mathematics Assessment (EGMA) (see ***Annex A*** for EGRA and EGMA Instruments). USAID/Jordan, in partnership with the MOE, was interested in gaining an accurate and evidence-based understanding of the state of primary education in Jordan. The results of the study could potentially be used to inform policy dialogue related to new literacy and numeracy initiatives and, more broadly, to drive quality improvement in primary schools.

With little solid recent assessment data of students' literacy and math skills in the early years available, the various components of the SSME can add significant value to policy considerations related to ERfKE. The data gained from the SSME assessments can directly support the MOE's interest in strengthening induction and in-service teacher training and in finding potential gaps in the curriculum for the early years. The data can inform next steps for developing the capacity of teachers to provide quality education, for updating and developing reading and math curriculum in the early grades, as well as for reforming teacher training curricula. Furthermore, the experience of conducting these assessments, as well as analyzing the findings they produce, can assist the MOE in evaluating its national system of student assessment as well as help it consider its options for how best to support improved student achievement in primary schools.

The first step to effect such education policy decisions is to develop a clear understanding of how children are learning to read and think mathematically in the primary grades. The assessments implemented in Jordan were abbreviated versions of the Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA), which offer an opportunity to determine whether children are developing the fundamental skills upon which all other literacy and mathematical skills build, and, if not, where efforts might be best directed. This is vital information for countries that are working to improve the quality of education in their schools. Indeed, growing international concern for learning outcomes, as opposed to attendance or completion rates, is evidenced by EGRA and EGMA having been adapted and used around the world, including EGRA implementations in over 50 countries.

In all EGRA and EGMA implementations, the assessments are administered individually and orally, typically using the students' native language to ensure that they understand the instructions for each task. In Jordan, the assessment designers ensured that the phrasing of the instructions used words and sentences that were common to both Modern Standard Arabic (MSA) and the vernacular Arabic. However, given that the language of instruction at school is MSA, the material that students read while taking the EGRA assessment was formulated in MSA. The instruments involve subtasks that require skills that are foundational to early grade reading and mathematics acquisition. Sections 2.2 and 2.3 below both provide background on these instruments in general and present detailed information on the specific skills assessed with the Jordan EGRA and EGMA instruments.

In addition to the EGRA and EGMA, and to paint a larger picture of the relationship between school management, teaching, and learning outcomes, the SSME consists of a set of interviews, checklists, and observations, the characteristics of which are further described in Section 2.4.

Findings from the assessment in Jordan based on these tools appear in Sections 3 and 4.

2.2 Overview of EGRA

2.2.1 Why Test Early Grade Reading?

The ability to read and understand a simple text is one of the most fundamental skills a child can learn. Without basic literacy there is little chance that a child can escape the intergenerational cycle of poverty. Yet in many countries, students enrolled in school for as many as six years are unable to read and understand a simple text. Recent evidence indicates that learning to read both *early* and at a sufficient *rate* are essential for learning to read well. Acquiring literacy becomes more difficult as students grow older; students who do not learn to read in the first few grades are more likely to repeat grades and eventually to drop out of school, because the gap between early readers and early nonreaders increases over time.

When students are first learning to read in Arabic, they must learn the letters and their forms, learn the sounds associated with each letter and diacritic marks, and apply this knowledge to decode (or "sound out") new words that they can recognize instantly.[11] By the end of this first phase, students develop sufficient speed and accuracy in decoding and word recognition that they can read with fluency. When students read with fluency, they can read orally with speed and expression similar to what they use in speech. Furthermore, reading with fluency is critical for reading comprehension,

[11] See E. Saiegh-Haddad. (2005). Correlates of reading fluency in Arabic: Diglossic and orthographic factors. *Reading and Writing: An Interdisciplinary Journal, 18,* 559–582. See also M. Taouk & M. Coltheart. (2004). The cognitive processes involved in learning to read in Arabic. *Reading and Writing: An Interdisciplinary Journal*, *17*, 27–57.

because students can concentrate on the meaning of what they read rather than having to focus on decoding.[12,13]

Recent evidence indicates that learning to read both early and at a sufficient rate, with comprehension, is essential for learning to read well. A substantial body of research documents the fact that students can learn to read by the end of grade 2, and indeed need to be able to read to be successful in school. Importantly, students who do not learn to read in the early grades (grades 1–3) are likely to fall behind in reading and other subjects, likely to repeat grades, and eventually to drop out of school.

2.2.2 What EGRA Measures

The EGRA instrument is composed of a variety of subtasks designed to assess foundational reading skills that are crucial to becoming a fluent reader. EGRA is designed to be a method-independent approach to assessment—that is, the instrument does not reflect a particular method of reading instruction (i.e., "whole language" or "phonics-based" approach). Rather, EGRA measures basic skills that a child must have to eventually be able to read fluently and with comprehension—the ultimate goal of reading. The EGRA subtasks are based on research for a comprehensive approach to reading acquisition across languages. These foundational reading skills are described below:

The **alphabetic principle** is considered essential for learning to read an alphabetic language. The alphabetic principle refers to the recognition and understanding that speech sounds (phonemes) are represented by units of print such as letters and diacritics (graphemes). Thus, mastery of the alphabetic principle is the understanding that there are predictable relationships between sounds and the symbols that represent them. It is necessary for mastering spelling patterns and their relationship with oral language through the letter-sound (grapheme-phoneme) correspondences.

Oral reading fluency is often defined as the ability to orally read connected text with speed, accuracy, and proper expression. Reading fluency is considered critical for comprehension, because rapid, effortless word-identification processes enable the reader to focus on the text and its meaning rather than decoding, or sounding out the words.[14]

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[12] S. Abu-Rabia. (2007). The role of morphology and short vowelization in reading Arabic among normal and dyslexic readers in grades 3, 6, 9, and 12. *Journal of Psycholinguistic Research*, *36*, 89–106.

[13] G. Elbeheri, J. Everatt, A. Mahfoudhi, M. A. Al-Diyar, & N. Taibah, (2011). Orthographic processing and reading comprehension among Arabic speaking mainstream and LD children. *Dyslexia, 17*(2): 123–142. doi: 10.1002/dys.430

[14] National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (National Institutes of Health Publication No. 00-4769). Washington, DC: U.S. Government Printing Office. See also C.A. Perfetti, (1992). The representation problem in reading acquisition. In P.B. Gough, L.C. Ehri, & R. Treiman (Eds.), *Reading acquisition* (pp. 145–174). Hillsdale, NJ: Erlbaum.

Reading comprehension, considered the goal of reading, refers to the ability to actively engage with, and construct meaning from, the texts that are read.

Listening comprehension refers to one's ability to make sense of oral language in the absence of print. Listening comprehension taps many skills and sources of knowledge, such as vocabulary knowledge, facility with grammar, and general background knowledge. Assessing listening comprehension is particularly important for a diglossic language such as Arabic, because children are often not introduced to the formality of Modern Standard Arabic (MSA) until after they begin formal schooling. Thus, listening comprehension assesses students' proficiency with MSA.

EGRA measures each of the above abilities to assess foundational reading skills. These skills are tested in individual subtasks and presented in order of increased level of difficulty (i.e., letter sound identification, then invented word reading, etc.). Because the first few EGRA subtasks are easier, EGRA can therefore measure a range of reading abilities for beginning readers. The subtasks included in the EGRA Jordan instrument are described in Section 2.2.3 below.

2.2.3 Structure and Content of the Final EGRA for Jordan

Administering the EGRA instrument designed for Jordan required on average slightly less than 6 minutes per student. The reading assessment was supplemented by student interviews, using a questionnaire, to clarify the demographic and social context in which students were learning to read. The EGRA was administered in MSA, which is the language of instruction in Jordan.

The EGRA consisted of the following five sections:

1. *Letter sound knowledge* assessed students' automaticity in their knowledge of the sounds associated with each letter. This was a timed subtask, in which students were shown a chart containing 10 rows each with 10 letters arranged randomly, yielding a total of 100 letters. Students were asked to produce the sounds associated with each letter as quickly and accurately as they could within one minute, <u>yielding a score of correct letters per minute (clpm)</u>.
2. *Invented word decoding* assessed students' skill at applying letter-sound correspondence rules to decode (i.e., sound out) unfamiliar words. To ensure that students were applying their knowledge of the relationships between sounds and symbols rather than reading words from memory, a chart of 50 pronounceable made-up words, which followed legal spelling patterns in Arabic with diacritics, was shown to students. Students were asked to sound out as many invented words as they could within one minute, <u>yielding a score of correct words per minute (cwpm)</u>.
3. *Oral passage reading* assessed students' fluency in reading a passage of grade-level text aloud and their ability to understand what they had read. This subtask consisted of two parts:
   a. *Oral reading fluency:* The ability to read passages fluently is considered a necessary component for reading comprehension. In this subtask, students

were given a 50-word story and were asked to read it aloud in one minute. The oral reading fluency score was the number of correct words read per minute (cwpm).

   b. *Reading comprehension*: After the students finished the passage, or the minute ended, the passage was removed. Students were orally asked questions that required them to answer basic facts or inferential questions based on the passage or the part they read. The reading comprehension score was the number of correct answers, with a maximum possible score of 6.

4. *Listening comprehension* is considered to be a critical skill for reading comprehension because it shows the ability to make sense of oral language. In this subtask, the examiner read a short passage to the students. Students were then orally asked six questions about that passage. The listening comprehension score was the total correct answers, with a maximum possible score of 6.
5. A *student interview* was given orally to the students after they had completed the other subtasks. The interview aimed to gather information about the home and school contexts that might help to explain the students' reading performance. For example, the students were asked about their access to reading and instructional materials at home and at school.

The EGRA administration is designed to make students feel comfortable during the assessment. For example, it always includes an "early stop" rule, which requires assessors to discontinue the administration of a subtask if a student is unable to respond correctly to any of the items in the first line (i.e., the first 10 letters, the first five words, or the first line of the oral reading fluency story). This rule was established to avoid frustrating students who do not understand the subtask or lack the skills to respond. If a subtask needs to be discontinued, the EGRA administrator marks a box indicating that the subtask was discontinued because the student had no correct answers in the first line. Secondly, before administering the EGRA, administrators are required to read to the students the explicit information about the test, to explain how it will be used, and that it will not impact their grades Also, students are asked to provide verbal assent to participate in the assessment before it begins.

2.3 Overview of EGMA

2.3.1 Why Test Early Grade Mathematics?

A strong foundation in mathematics during the early grades is crucial for success in mathematics in the higher grades. Mathematics is a skill very much in demand in today's economy, as has been demonstrated by various economists. Most competitive jobs require some level of mathematics skill. It has also been noted that the problem-solving skills and mental agility and flexibility that children develop through mathematics transfer to other areas of life and work. Furthermore, countries' rankings on mathematics skills are becoming a matter of political currency, because of international assessments such as the Trends in International Mathematics and Science Study (TIMSS). Most countries' mathematics curricula for the early grades now coincide in terms of the skills children should have. For example, goals such as knowing and using number names, learning and understanding the values of numbers, knowing key symbols, and comparing and ordering sets of objects, are skills found in many curricula, including curricula in developing countries.

2.3.2 Purpose of EGMA

EGMA was designed to provide information about basic, foundational competencies that should typically be mastered in the very early grades to ensure success in more advanced mathematical skills. Without these basic skills, students will struggle or potentially drop out of school in later years. Subtasks selected for EGMA were drawn from extensive research on early mathematics learning and assessment and were constructed by a panel of experts on mathematics education and cognition. The conceptual framework for mathematical development is grounded in extensive research that has been conducted over the past 60 years.[15] To develop the EGMA protocol, developers systematically sampled early numeracy skills, particularly those underlying number sense. These abilities and skills are key in the progression toward the ability to solve more advanced problems and the acquisition of more advanced mathematics skills.[16]

2.3.3 What EGMA Measures

A number of criteria were defined for subtasks to be included in the EGMA instrument, to support the goal of providing stakeholders, such as ministries of education, aid agencies, and local education officials, with the information essential to making informed changes in teacher education and support, curriculum development, and implementation. The subtask criteria are as follows:

- They represent skills that developing country and developed country curricula have determined should be acquired in early grades;
- They reflect those skills that are most predictive of future performance, according to available research and scientific advice;
- They represent a progression of skills that lead toward proficiency in mathematics;
- They target both conceptual and computational skills; and

[15] E.g., A. J. Baroody, M.-L. Lai, & K. S. Mix, (2006). The development of number and operation sense in early childhood. In O. Saracho & B. Spodek (Eds.), *Handbook of research on the education of young children* (pp. 187–221). Mahwah, NJ: Erlbaum; D. J. Chard, B. Clarke, S. Baker, J. Otterstedt, D. Braun, &

R. Katz, (2005). Using measures of number sense to screen for difficulties in mathematics: Preliminary findings. *Assessment for Effective Intervention, 30(2),* 3–14; and D. Clements & J. Samara, (2007). Early Childhood mathematics learning. In F.K. Lester, Jr. (Ed.), *Second handbook on mathematics teaching and learning* (pp.461–555). Charlotte, NC: Information Age.

[16] E.g., Baroody, et al., (2006); Clements & Samara (2007); and A. Foegen, C. Jiban, & S. Deno, (2007). Progress monitoring measures in mathematics: A review of literature. *The Journal of Special Education, 41*(2), 121–139.

- They represent skills and tasks that can be improved through instruction.

EGMA is an individually administered oral test that allows for the targeted skills to be assessed without being confounded by problems with language or writing that might otherwise impede performance. By administering the test orally, administrators can better ensure that students understand instructions provided in the dialect of the Arabic language that they know.

2.3.4 The EGMA Instrument for Jordan

The EGMA designed for Jordan consisted of eight subtasks (sections).

All items on the assessment were presented orally to students in the dialect of Arabic they would best understand and all items were arranged in order of increasing difficulty for all subtasks. The assessment items included the following:

1. *Number identification* assessed students' knowledge and ability to identify written number symbols. Here, students orally identified printed number symbols presented in a grid, and students were asked to identify as many numbers as they could in 30 seconds, with their score being converted to give a per-minute rate. This subtask consisted of 20 one- to three-digit numbers arranged in order of increasing difficulty. Two scores were generated for this subtask: <u>(1) the number of correct responses made per minute and (2) the percentage of correct responses for the items attempted in the time allocated</u>.
2. *Quantity discrimination* assessed the students' ability to make judgments about differences in numbers by comparing quantities. Quantity discrimination in the early grades is a critical link to effective and efficient problem-solving strategies. In the Jordanian EGMA, students were asked to compare single and double digit numbers. Students were presented with items that each contained two numbers. Students were then asked to identify the larger number in each item (e.g., "Which one is bigger?"). The used number pairs ranged from a pair of single-digit numbers, to five pairs of two-digit numbers, and four pairs of three-digit numbers. For all items, the discriminating digits in the pairs were varied to ensure that the student understood place value, e.g., 48 versus 58, and 67 versus 65. This subtask consisted of 10 items, and students were given a one-minute timeframe to identify as many as they possibly could of the larger number in each pair of numbers. Two scores were generated for this subtask: <u>(1) the number of correct responses made per minute and (2) the percentage of correct responses for the items attempted in the time allocated</u>.
3. *Missing number (number patterns)* assessed students' ability to discern and complete number patterns. Each item in this subtask consisted of four placeholders with numbers in a sequence and one placeholder blank for a next or missing number. The student was asked to determine and name the missing number. Used numbers ranged from single-digit to three-digit numbers (maximum 550). The patterns that were used included counting forward and backward by ones, by fives, by tens, and by twos. This subtask consisted of 10 items, and students were given a one-minute timeframe to determine as many as they possibly could of the missing numbers needed to complete the

patterns/sequences. Two scores were generated for this subtask: (1) the number of correct responses made per minute and (2) the percentage of correct responses for the items attempted in the time allocated.

4. *Addition and subtraction (level 1)* assessed students' procedural knowledge and fluency in the basic operations of addition and subtraction. In the assessment, addition and subtraction were assessed in separate tasks. In both of the tasks, children were presented with two-number addition/subtraction items, with sums/differences below 20, and asked to solve them mentally (if students used their fingers they were not stopped from doing so). The addition problems ranged from the addition of two single-digit numbers with sums less than 10, to the addition of two single-digit numbers with sums equal to 10, to the addition of a single-digit number to a double-digit number with a sum less than 20, and to the addition of two single-digit numbers with sums greater than 10 (i.e., involving bridging the 10). The subtraction problems ranged from the subtraction of a single-digit number from a single-digit number, to the subtraction of a single-digit number from 10, to the subtraction of a single-digit number from a double-digit number with a difference greater than 10 (i.e., requiring no bridging of the 10), and to the subtraction of a single-digit number from a double-digit number resulting in a single digit number (i.e., involving bridging the 10). Each of the level 1 addition and subtraction subtasks consisted of 20 items, and students were asked to solve as many problems as they possibly could in 30 seconds, with their score being converted to give a per-minute rate. Two scores were generated for the level 1 addition and subtraction subtasks: (1) the number of correct responses made per minute and (2) the percentage of correct responses for the items attempted in the time allocated. Students who were able to correctly answer one or more addition or subtraction problems were given the opportunity to attempt the level 2 subtasks.
5. *Addition and subtraction (level 2)* assessed students' more conceptual understanding of addition and subtraction, as well as their ability to apply the procedural knowledge assessed in the two level 1 subtasks. In the assessment, addition and subtraction were assessed in separate tasks. For these subtasks, children were presented with two-number addition/subtraction items and asked to solve them. The assessor offered paper and pencil to the students, who were told that they were allowed to use these aids if they wished, but that they did not have to use them if they did not want or need to do so (if students used their fingers or drew lines to solve the problem, they were encouraged to use another method if they could). The addition problems ranged from the addition of a single-digit number to a double-digit number with a sum less than 20, to the addition of a single-digit number to a double-digit number with a sum greater than 20 (i.e., involving bridging of a 10), to the addition of two double-digit numbers with a sum less than 100 that did not require bridging a 10, and to the addition of two double-digit numbers with a sum less than 100 that required bridging of a 10. The subtraction problems ranged from the subtraction of a single-digit number from a double-digit number less than 20

without bridging, to the subtraction of a single-digit number from a double-digit number less than 20 and involving bridging, to the subtraction of a double-digit number from a double-digit number that required no bridging, and to the subtraction of a double-digit number from a double-digit number involving bridging the 10. Each subtask consisted of five items arranged in order of increasing difficulty, and students were asked to solve as many addition problems as they possibly could in a one-minute timeframe. Two scores were generated for each subtask: (1) the number of correct responses made per minute and (2) the percentage of correct responses for the items attempted in the time allocated.

6. *Word problems* assessed student's ability to interpret a situation (presented to them in words), make a plan, and solve the problem. Because the focus was on assessing the student's ability to interpret a situation, make a plan, and solve a problem, the numerical values involved in the problem were deliberately small, to allow for the targeted skills to be assessed without being confounded by problems with calculation skills that might otherwise impede performance. The situations used were designed to provoke different mathematical solutions. For this subtask, children were asked to solve the problems using any strategy that they wished, including the use of paper and pencil and/or counters supplied by the assessor. This subtask consisted of three items, and no time limit was set for the solution of the problems, although students were encouraged to move on to the next problem if they were making no progress on an item after 1 minute. One score was generated for this subtask: the percentage of correct responses for the items attempted.

In the Jordanian EGMA instrument, the word-problem subtask was only included after the pilot study had been conducted. The results of the pilot study suggested that the number identification subtask was not sufficiently demanding to discriminate between the ranges of participating students. Although it was decided not to omit the number identification subtask in case the study sample proved to be more diverse than the pilot sample, it was decided to include the word-problem subtask to access information about the ability of students in Jordan to interpret a situation, make a plan, and solve the problem

All subtasks (with the exception of the word-problem subtask) were timed to manage test length and to enable the research team to examine both automaticity (fluency) (measured in number of correct items per minute) and accuracy (measured in percentage correct out of number attempted). For the number discrimination and missing number subtasks, the students completed two practice items before attempting the actual items, to ensure that they understood the respective tasks before being asked to answer the problems.

2.4 Overview of SSME

The SSME is an instrument that yields a multifaceted picture of school management practice. Management data collected by the SSME include pedagogical approach; time on task; interactions among students, teachers, administrators, district officials, and parents; record keeping; discipline; availability and condition of school infrastructure; availability of pedagogical materials; and safety. Data are collected via direct classroom and school observation; student assessments; and interviews with students, teachers, and principals. By collecting information on only the most crucial school effectiveness factors, and by applying innovative and simple data-collection methodologies, the SSME is able to produce a rich data set at low cost. The SSME is designed such that a single assessor can assess a school in just one day. The resulting data are designed to let school, district, provincial, or national administrators or donors learn what is going on in their schools and classrooms and to help answer the question, "Why is it that some schools succeed while others do not?"

Building on the framework for the analysis of effective schools described in the effective schools literature,[17] the SSME collects information on (1) basic school inputs such as school infrastructure, pedagogical materials, teacher and School Principal characteristics, student characteristics, and parental and community involvement; (2) classroom teaching and learning processes, including use of material, instructional content, student-teacher interaction, time on-task, assessment techniques, and administrative oversight; and (3) learning outcomes data, via the application of abbreviated portions of two other instruments: EGRA and EGMA (see Sections 2.2 and 2.3). These brief but thorough oral assessments that are administered individually to randomly selected students add to the information about school management effectiveness by accurately evaluating students' knowledge of foundational reading and math skills.

The SSME is administered during one school day by a four-person team. Each of the components of the SSME is designed to supply information from a different perspective. The SSME design aims to balance the need to include a broad mix of variables—in order that potentially impactful characteristics can be identified—with the competing need to create a tool that is as undisruptive to the school day as possible. When combined as a whole, these instruments produce a multifaceted and comprehensive picture of a school's learning environment, and when the results from multiple schools in a region are compared, it becomes possible to account for differences in school performance. Following is a listing of the SSME components (see ***Annex A*** for further descriptions):

1. School Principal Questionnaire – administered to the Principal in each school visited;
2. Teacher Questionnaire – administered to the two teachers whose students are selected for assessment;
3. Student Questionnaire – administered to each student randomly selected for assessment;

[17] This framework for the analysis of school effectiveness is based on research reported by H. Craig & W. Heneveld, (1996). *Schools count: World Bank project designs and the quality of primary education in sub-Saharan Africa.* World Bank Technical Paper Number 303 (Africa Technical Department Series). Washington DC: World Bank; and J. Carasco, C. Munene, D. Kasente, & M. Odada, (1996). *Factors affecting school effectiveness in Uganda: A Baseline study*. Kampala: Uganda National Examination Board.

4. Mini-EGRA and Mini-EGMA – administered to a random sample of students in grade 2 and grade 3 (see Sections 2.2 and 2.3);
5. School Observation – administered at each school visited;
6. Classroom Inventory – administered in each of the two sampled classes;
7. Classroom Observation (reading) – administered during the reading lesson in the lower grade classroom (grade 2 in the case of Jordan); and
8. Classroom Observation (mathematics) – administered during the mathematics lesson in the lower grade classroom (grade 2).

A final instrument employed in this study is a tool called the Quality of Instruction Scale (QIS) (see ***Annex B,*** SSME Instruments). This tool was developed by education experts at RTI and is designed to be used as a complement to the SSME classroom observation instrument. Although the classroom observation collects quantitative data, such as noting what teaching materials or instructional content a teacher is using during a lesson, it does not provide insight into the quality of the teaching that is being observed. Thus, we might learn from the classroom observation instrument that a teacher spends the majority of the lesson time focused on the whole class, while using a combination of the blackboard and a textbook to teach subtraction. However, this instrument does not tell us anything about how well the teacher is conveying instructional content to the students. To gain a better understanding of students' performance in school, it is important to learn as much as possible about what is happening in the classroom. This includes learning what is being taught, what resources are being used, how time is being spent during lessons, how students are behaving, *and* how well or poorly teachers are teaching. In certain country contexts, the QIS can be applied by an education expert in a few schools, and the information from these observations can help to provide more detail about what is happening in the classroom.

The QIS contains a series of qualitative categories, having to do with, for example, how teachers use the lesson cycle, monitor students' understanding, ask questions, and maintain student engagement. While sitting in a reading or math lesson, the quality observer then selects one of four descriptions per category, whichever best describes the teacher's behavior. The four options range from describing low quality teaching to high quality teaching. Because the QIS collects qualitative information that is naturally subjective in nature, only an education expert, who has a good understanding of teaching methods as well as of the local education system, should be tasked with applying the instrument, for example, a professor from a local university education department or a retired senior MOE official. Additionally, the QIS is not designed to be applied in the entire sample of schools receiving the SSME, and the information gathered with the QIS cannot be subjected to statistical analysis, both because of its subjective/qualitative nature and the small sample size. In Jordan, the QIS was applied in five schools, and the quality observer witnessed a reading and a math lesson in each school. The quality observer then submitted scores for each lesson in each school and was interviewed by RTI staff about the observations. Where applicable in this report, therefore, qualitative information gained from the QIS is used to add depth to our findings.

2.5 Instrument Development Process for Jordan: EGRA, EGMA, and SSME

The EGRA, EGMA, and SSME tools are always carefully tailored to the appropriate country or region, rather than existing tools simply being translated into the language selected for the implementation. In the case of Jordan, the content for the EGRA subtasks, in particular, was developed to ensure that the material presented to students was suitable for the requirements of the Jordanian curriculum.

Twenty-four staff from the Ministry of Education participated in a one-week instrument development and adaptation workshop that began on February 19, 2012. The group included school teachers and directors, education inspectors/supervisors, reading and mathematics curriculum experts, senior officials from the Ministry, and three professors from the University of Jordan. The goal of the workshop was to create reading and mathematics assessment tools that reflected the Jordanian school curriculum and measured skills that were relevant to the acquisition of reading in Arabic.

Similarly, the SSME instrument was streamlined to include items that were of interest to the participants and were adapted to the conditions of school management applicable for the entire country.

Each instrument was pretested in 10 schools within the region of Amman. (These schools were not included in the sample used for final assessment.) The SSME instrument was then reviewed in light of the pretesting experience, any phrasing of questions that led to misunderstandings was clarified, and problematic questions were removed or modified. The EGRA and EGMA assessments were then put through rigorous item-level psychometric analyses (using the Rasch model), which helped to identify items that were too difficult or easy, as well as items that were redundant.

For EGRA, two reading passages and two listening passages were pretested, each slightly different from the other, and one of each was selected to be included in the final assessment. Based on the Rasch analysis, which provided information about which version was most appropriate for the students being assessed, it was decided to use Version 1 of the *Reading Comprehension* task and remove Version 2, and to use Version 2 of the *Listening Comprehension* task, and remove Version 1.

For EGMA, the Rasch analysis of the pilot data revealed that Task 1 (Number Identification) exhibited a significant ceiling effect, while the other tasks all performed within acceptable limits in terms of the Cronbach’s Alpha, the mean targeting, and any possible floor and ceiling effects. Despite exhibiting a ceiling effect, however, it was decided to retain Task 1 in case it was found that in the rural schools there was a need for this task.

Any anomalies observed could be explained by the test structure, the nature of the set of pilot schools, the small data set, and the timing restrictions.

In light of the above analysis and taking into account also the desire of the Ministry officials and other participants in the adaptation workshop to include some word problems if the pilot study showed that the lower level skills being tested by the pilot version of EGMA showed a ceiling effect, it was decided to include a word problem task into the study

2.6 Sample

2.6.1 The Population and Sample

The population for the Jordan EGRA-EGMA-SSME study includes all grade 2 and grade 3students who are currently attending the 2011–2012 Jordan academic school year. To obtain a random sample of grade 2 and grade 3 students, a three-stage sample was implemented by selecting: schools, classrooms, and then students.

The random sample of schools was selected from the Education Management Information Systems (EMIS) list of primary schools. Schools were stratified by region (north, middle, and south) and school-gender (all-boys, all-girls, and mixed) schools to form nine different strata. Schools where then selected proportionally to the combined grade 2 and grade 3 enrollments as reported by the EMIS. ***Table 1*** provides the population and sample count of schools and the expected grade 2 and grade 3 enrollments. To account for non-proportional sampling of schools, sample weights were created and applied to all analyses to guarantee that the sample properly represents the population of interest (see ***Annex C***). For each school, the Principal (or the assistant Principal, if the Principal was not available) was automatically chosen to complete the School Observation Questionnaire as well as the School Principal Questionnaire.

Table 1. School: Population and sample counts of Jordan primary schools and grades 2 and 3 enrolment counts within the schools

School stratification		Population* counts		Sampled schools counts	
Region	School gender	Schools	Grades 2 and 3 enrollment	Schools	Grades 2 and 3 enrollment
Middle	All boys	157	17,590	16	3,020
Middle	All girls	133	16,713	15	2,627
Middle	Mixed	512	61,906	23	4,484
North	All boys	178	12,227	15	1,531
North	All girls	143	11,746	15	1,535
North	Mixed	541	33,084	20	2,140
South	All boys	13	1,123	11	1,123
South	All girls	22	1,674	14	1,471
South	Mixed	335	19,508	27	2,560
Total		**2,034**	**175,571**	**156**	**20,491**

**Population counts are based on the 2011 EMIS list of all primary schools containing at least one grade 2 student and one grade 3 student.*

Within each selected school, all grade 2 classrooms were listed[18] and one grade 2 classroom was randomly selected with equal probability. The same process was followed for the grade 3 classrooms. For each selected classroom, the assessor completed the Classroom Inventory Instrument and the classroom's teacher was automatically chosen to complete the Teacher Instrument. For the grade 2 classrooms only, the assessor also completed the Reading Classroom Observation Instrument and the Math Classroom Observation Instrument.

Within each selected classroom, 10 students were selected at random with equal probability. If a classroom contained less than 10 students, then all of the students in that classroom were automatically selected and assessed. Each student completed the SSME Student Questionnaire, EGRA Instrument, and EGMA Instrument. The final sample count of schools, School Principals, teachers, and students is presented in ***Table 2.*** See Annex C for more explanation of how the sample is representative of the population. ***Table 3*** provides the final counts of the completed EGRA, EGMA, and SSME instruments.

[18] If a school had shifts, the list of all grade 2 and grade 3 classrooms was made for the shift that was in session at the time assessors arrived at the school.

Table 2. Final sample counts of assessed items

Items sample/Assessed	Grade 2	Grade 3	Total
Schools	-	-	156
School Principals	-	-	156
Teachers	154	152	306
Students	1,529	1,534	3,063

Table 3. Final count of the completed EGRA-EGMA-SSME assessments

Instruments Assessed	Level	Total
Schools	School	156
School Principals	School	156
Teacher Instrument	Teacher/Class	306
Classroom Inventory	Teacher/Class	306
Reading Classroom Observation	Teacher/Class (grade 2 only)	151
Math Classroom Observation	Teacher/Class (grade 2 only)	152
Student Instrument	Student	3,063
EGRA	Student	3,063
EGMA	Student	3,063

2.6.2 Data Processing

Information in each data set of the EGRA-EGMA-SSME study was checked for consistent responses. Checks were conducted both within each data set and among datasets, and inconsistent responses were edited only if it was clear which inconsistency was incorrect. Because of the high response rate, data were not imputed. To account for the non-proportional sampling, each selected item was weighted based on the sampling methodology. The final student weights were scaled to the population by Region-School Gender-Student Gender.

2.7 Limitations of the Study

One limitation of the present study involves the wealth index, which is derived from a series of questions in the SSME student interview questionnaire. To understand the extent to which socioeconomic status (SES) may impact student performance, the questionnaire includes a list of assets, and students are asked whether or not their family owns each item. For each country where the SSME is administered, this list of assets is discussed and modified at the instrument adaptation workshop to ensure that it can serve as an accurate proxy for the range of wealth in the country. The range of student responses is then divided into four income quartiles, with a score of 1 indicating the lowest level of wealth and a score of 4 indicating the highest. In the case of Jordan, data analysis of the wealth index revealed a large ceiling effect, which means that among students listed in the 4th income quartile, there was little variation across students because the majority reported that their family owns each of the assets that are linked to wealth. Thus, it would have been prudent to ensure a wider range of listed assets.

Another limitation stems from the SSME classroom observation instrument. Given some apparent contradictions in the categories of student action and teacher action and focus, it will be necessary, going forward in future studies, to revise the instrument and/or the protocol to increase the consistency of its application.

3. EGRA and EGMA Findings

3.1 Summary of EGRA and EGMA Scores

As a first step, data for EGRA and EGMA were analyzed separately. The analyses provided average scores for each subtask for the assessed grade 2 and grade 3 students, as well as provided a more detailed study of the pattern of incorrect response, when relevant. The data analyses yielded a description of the early grade students' reading and mathematics skills in Jordan

As a second step, EGRA and EGMA scores were analyzed in relation to the SSME information that was collected in the schools. RTI researchers carried out validity and reliability tests of the EGRA and EGMA. Cronbach's alpha values for both indicated that the instruments showed good internal consistency on average ($\alpha = 0.86$ for EGRA and 0.90 for EGMA). Statistics such as these can show how well a set of variables measures an underlying construct, and in the present study, they suggest that the different subtasks of the Jordan EGRA and EGMA all contributed to measuring early grade students' reading and mathematics knowledge.

3.1.1 EGRA Results

Summary of EGRA Scores

This section presents summary statistics for all subtasks of the EGRA in Jordan.

Although students in grades 2 and 3 showed comparable performance in their knowledge of letter sounds, students in grade 3 performed better than those in grade 2 on the measures of word reading (decoding invented words and oral reading fluency) and in their comprehension of written and oral passages. Although boys and girls in Jordan tended to show comparable listening comprehension skills and knowledge of letter sounds, girls showed stronger performance than boys in decoding invented words, oral reading fluency, and reading comprehension.

Table 4 below reveals that early reading skills were low across all the EGRA measures. Few students could read with sufficient fluency to enable them to comprehend the text. Further, students had limited prereading skills. Students in grades 2 and 3 could identify the sounds associated with 27 letters on average in one minute. Students' limited mastery of the letter sounds contributed to very low scores in invented word decoding and oral reading fluency. More specifically, students in grade 2 read an average of 4.4 invented words and 15.2 real words per minute, whereas students in grade 3 read 7.0 invented words per minute and 23.7 words of the passage in one minute. Not unexpectedly, then, students' reading comprehension scores were low, with 2.0 correct answers in grade 2 and 2.9 in grade 3. Students showed comparable listening comprehension performance, with an average score of 2.2 correct answers in grade 2, and 2.9 in grade 3.

Table 4. Summary of EGRA average scores, by grade

Subtask	Percentage of students with zero scores	Grade 2 average	Grade 3 average	Overall average
Letter sound knowledge (clspm)	24.1%	26.5	26.3	**26.4**
Invented word decoding (cnonwpm)	47.1%	4.4	7.0	**5.7**
Oral reading fluency (cwpm)	20.2%	15.2	23.7	**19.4**
Reading comprehension (max. 6)	24.4%	2.0	2.9	**2.5**
Listening comprehension (max 6)	11.8%	2.2	2.9	**2.5**

Note: clpm = correct letters per minute; cwpm = correct words per minute

Table 5 shows average EGRA scores separated by gender. For almost every subtask, in both grades, girls outperformed boys. This difference in performance is most striking on the oral reading fluency subtask, where girls were able to read about 4 more words per minute than boys in grade 2 and about 9 more words in grade 3.

Table 5. Summary of EGRA average scores, by student gender and grade

Subtask	Grade 2 boys	Grade 2 girls	Grade 3 boys	Grade 3 girls
Letter sound knowledge (clpm)	26.0	27.0	25.8	26.7
Invented word decoding (cnonwpm)	4.0	4.8	6.0	7.8
Oral reading fluency (cwpm)	13.5	16.8	19.0	27.7
Reading comprehension (max. 6)	1.7	2.3	2.5	3.2
Listening comprehension (max 6)	2.2	2.1	2.7	3.0

Table 6 presents student performance scores by school gender. Significance is indicated by the asterisk (*). With the exception of the correct letter sounds per minute, students at all-girl schools tended to perform better on the EGRA subtasks. The differences in means of the invented word, the ORF, and the reading comprehension subtasks are statistically significant.

Table 6. Summary of EGRA average scores, by school gender

Subtask	All boys	All girls	Mixed gender
Letter sound knowledge (clpm)	25.7	25.2	**26.7**
Invented word decoding (cnonwpm) *	4.9	7	**5.7**
Oral reading fluency (cwpm) ***	15.2	23.5	**19.7**
Reading comprehension (max 6) ***	2.1	2.9	**2.5**
Listening comprehension (max 6)	2.4	2.7	**2.5**

* indicates the difference in means is significant at the .05 level.

** indicates the difference in means is significant at the .01 level.

*** indicates the difference in means is significant at the .001 level.

As is highlighted in ***Table 7***, there are regional differences in performance, but these differences are only statistically significant for the invented word subtask and the listening comprehension subtask.

Table 7. Summary of EGRA average scores, by region

Subtask	North	Middle	South
Letter sound knowledge (clpm)	24.7	26.9	28.5
Invented word decoding (cnonwpm) **	7.1	4.6	6.6
Oral reading fluency (cwpm)	20.7	18.6	19.3
Reading comprehension (max 6)	2.5	2.5	2.3
Listening comprehension (max 6) *	2.3	2.6	2.5

* indicates the difference in means is significant at the .05 level.

** indicates the difference in means is significant at the .01 level.

*** indicates the difference in means is significant at the .001 level.

There were even fewer differences in performance between students living in urban settings versus those living in rural settings. As can be seen in ***Table 8***, the only statistically significant difference was a weak correlation on the listening comprehension subtask.

Table 8. Summary of EGRA average scores, by urban/rural

Subtask	Urban	Rural
Letter sound knowledge (clpm)	19.8	18.5
Invented word decoding (cnonwpm)	26.6	26.0
Oral reading fluency (cwpm)	6.0	5.2
Reading comprehension (max 6)	2.6	2.3
Listening comprehension (max 6)*	2.6	2.3

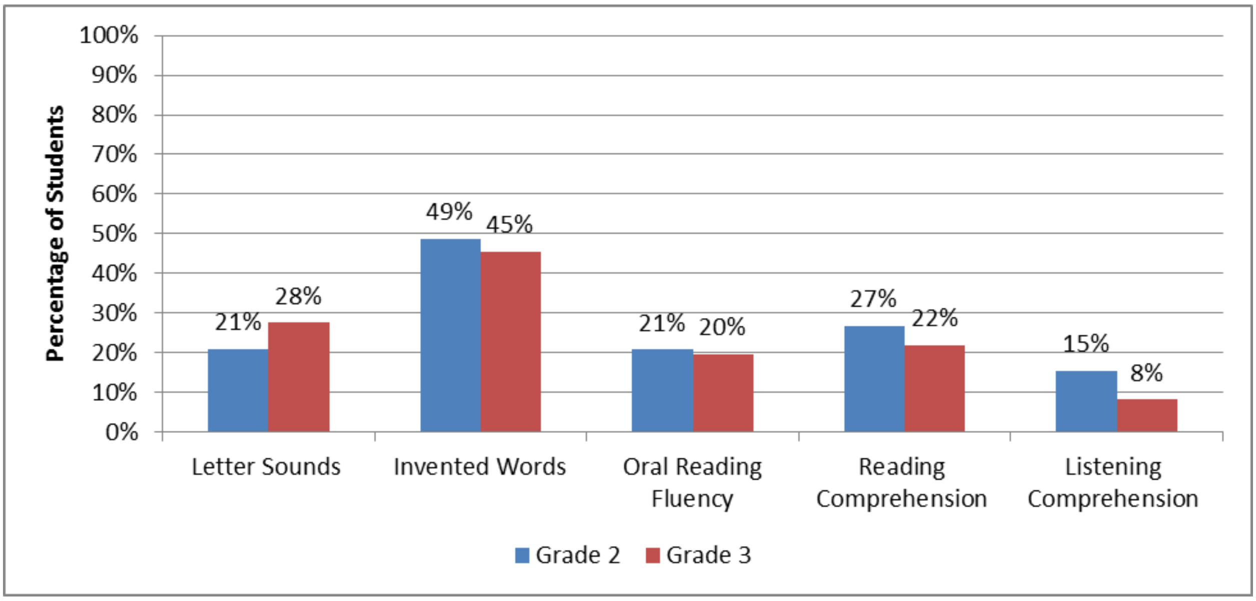
* indicates the difference in means is significant at the .05 level.

** indicates the difference in means is significant at the .01 level.

*** indicates the difference in means is significant at the .001 level.

Please note that examining students' performance without considering zero scores may not provide a clear picture of the reading achievement of students who do learn to read. Zero scores can depress the overall average, and examination of ***Figure 1*** suggests that the large number of zero scores likely had this effect. Nearly half (49%) of the students in grade 2 were unable to read a single invented word, and 21% of the students in grade 2 could not read a single word from the oral reading passage. Similarly, 45% of the students in grade 3 could not read a single invented word, and 20% of grade 3 students could not read a single word from the passage. Answering reading comprehension questions was also problematic for 27% of the grade 2 students and almost 22% of the students in grade 3.

Figure 1. Percentage of EGRA zero scores in grades 2 and 3



Because a large number of students received a zero score on EGRA subtasks, an analysis of averages of those who *were* able to identify letters or words is pertinent. Excluding zero scores may produce a clearer picture of the reading performance of students who *can* complete the tasks, as the zero scores may lead to underestimates of the reading and comprehension skills of these students. ***Table 9*** presents the mean scores for students who were able to successfully complete at least one item on each of the EGRA subtasks.

Table 9. Summary of EGRA average scores with zero scores excluded

Subtask	Grade 2 average	Grade 3 average	Overall average
Letter sound knowledge (clpm)	33.5	36.2	**34.8**
Invented word decoding (cnonwpm)	8.7	12.8	**10.8**
Oral reading fluency (cwpm)	19.2	29.5	**24.3**
Reading comprehension (max. 6)	2.8	3.7	**3.3**
Listening comprehension (max. 6)	2.6	3.1	**2.9**

Note: clpm = correct letters per minute; cwpm = correct words per minute

As can be seen, the differences in EGRA scores are very informative once zero scores are removed. Students' letter sound knowledge scores increased from 26.4 (Table 4) to 34.8 (Table 9) when considering only those who could produce the sound of at least one letter. Those who were able to read at least one word were reading lists of invented words at close to 11 cnonwpm, and a passage of text at a rate of 24.3 cwpm. By excluding zero scores, students' reading comprehension scores showed modest increases, from almost 2.5 (Table 4) correct answers to 3.3 questions (Table 9) answered correctly. In contrast, removing the zero scores had little effect on students' listening comprehension scores, because they increased by less than half a point (from 2.5 to 2.9) when zero scores were excluded.

Another way to analyze EGRA scores is to compare the results to the number of items attempted on the subtask, which allows for an examination of accuracy. Fluency scores alone do not shed light on whether a student obtaining a relatively low score simply attempted the items at a slower pace, but responded correctly; or answered rapidly, but had many incorrect answers. Thus, comparing scores to the number of items attempted on the subtask provides further insight into students' mastery of early reading skills. ***Table 10*** presents the average score of the student population, the average number of items attempted for the subtasks, and the average percentage of correct attempts.

Table 10. Summary of EGRA scores compared to the number of items attempted, zero scores included

Subtask	Average score	Average number attempted	Percentage correct
Letter sound knowledge (clpm)	**26.4**	61.1	26.5%
Invented word decoding (cnonwpm)	**5.7**	34.3	11.5%
Oral reading fluency (cwpm)	**19.4**	34.9	35.2%
Reading comprehension (max. 6)	**2.5**	3.0	41.2%
Listening comprehension (max. 6)	**2.5**	4.5	42.0%

Note: clpm = correct letters per minute; cwpm = correct words per minute

Table 10 shows that students had limited accuracy in their responses on most of the EGRA subtasks. However, students were most successful at answering comprehension questions about passages they had read or heard. Students accurately answered 41.2% of the reading comprehension questions that they attempted. In contrast, students successfully answered a little less than half (42%) of the listening comprehension questions that they attempted. Overall, students were less skillful in their interactions with print. Students accurately read 19.4 of the 34.9 words they attempted in the passage. Students struggled to a greater extent with the two tasks that have limited contextual support (letter sounds and invented words). They successfully identified 26.5% (26.4 correct of the 61.1 attempted) of the letter sounds they attempted, and decoded 11.5% (5.7 correct of the 34.3 attempted) of the invented words they attempted. This shows that for students, the challenge is most likely the ability to recognize the sounds associated with each letter, to decode unfamiliar words, and to recognize known words, rather than the speed in doing so.

Once again, because most students received scores of zero on at least some of the EGRA subtasks, we compared the accuracy on each of the subtasks to the number of items attempted on those subtasks after excluding zero scores. ***Table 11*** presents the average scores for students who were able to provide at least one correct response on the EGRA subtasks.

Table 11. Summary of EGRA scores compared to the number of items attempted, zero scores excluded

Subtask	Average score	Average number attempted	Percentage correct
Letter sound knowledge (clpm)	**34.8**	48.7	34.9%
Invented word decoding (cnonwpm)	**10.8**	20.6	21.7%
Oral reading fluency (cwpm)	**24.3**	31.6	44.1%
Reading comprehension (max. 6)	**3.3**	3.9	54.5%
Listening comprehension (max. 6)	**2.9**	4.7	47.6%

Note: clpm = correct letters per minute; cwpm = correct words per minute

As can be seen, after zero scores are excluded, students showed improved patterns of accuracy on the items that they had attempted on each of the EGRA subtasks. Indeed, by excluding zero scores, students who could read at least one word in a passage were accurate in 44.1% (Table 11) of the words they attempted (in comparison to 35.2% accuracy when all students were included [Table 10]). The marked increase seen by excluding zero scores, coupled with the low number of words attempted (31.6 words on average), suggests that students have a limited mastery of basic decoding skills that require them to rely on memorization and recognition of known words as their primary strategy for reading. Finally, the removal of zero scores led to some change in students' comprehension scores, with students being successful at answering between 47.6% (listening) and 54.5% (reading) of the comprehension questions they attempted.

Subtask Analysis

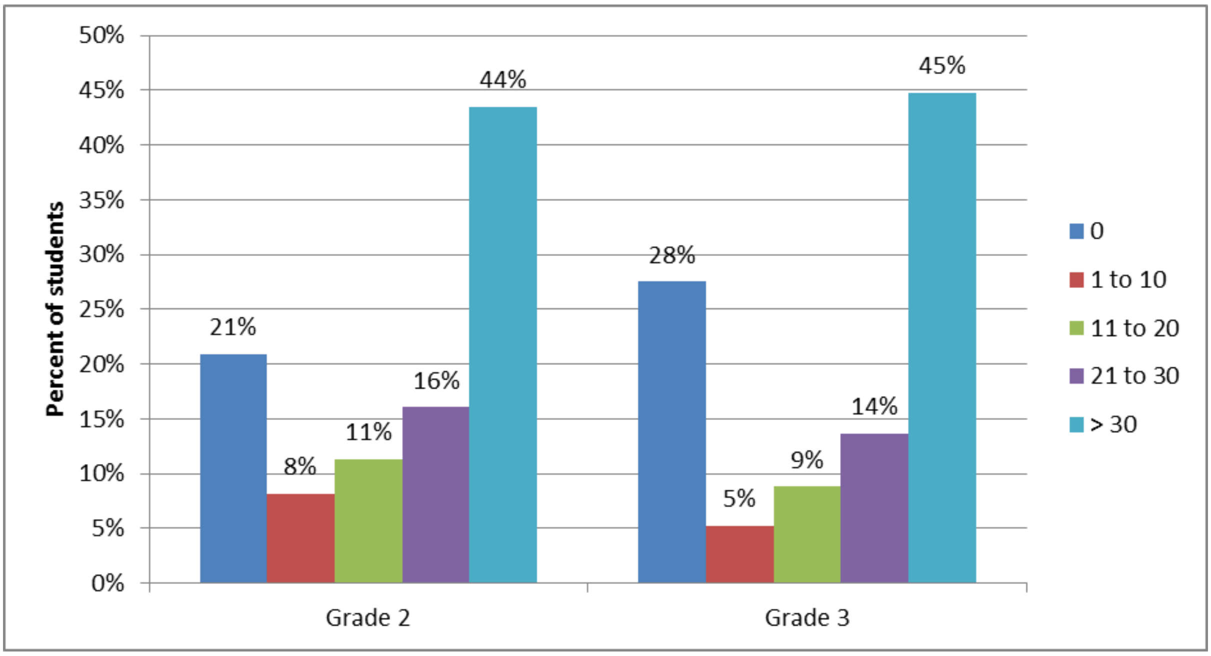
In the section that follows, each subtask is presented with a look at the proportion of students who scored zero and the comparisons between groups.

Letter Sound Knowledge

In the most basic subtask, letter-sound knowledge, students were presented with a chart that contained 100 random letters. They were asked to generate the sounds associated with as many of these letters as they possibly could within one minute. Letter sound knowledge, or the alphabetic principle, is considered a prerequisite skill for beginning reading and has been found to be a strong predictor of reading growth in abjads, or consonant-based alphabets, such as Arabic. Scores for this subtask were the number of letter sounds the student could correctly generate within one minute (correct letter sounds per minute [clspm]). ***Figure 2*** presents grade 2 and grade 3 students' fluency in identifying letters. Among the grade 2 students, 8% of the students correctly identified between 1 and 10 letters in one minute, and 44% correctly identified over 30 letter sounds in one minute. A similar pattern was seen with grade 3 students, with 5% identifying between 1 and 10 correct letter sounds in one minute, and 45% of the students naming more than 30 correct letter sounds in one minute.

As can be seen, a higher percentage of grade 3 students were unable to correctly pronounce a single letter sound than in grade 2. The Jordanian primary school curriculum dictates instruction about letter sounds in the grade 1 lesson plans, and this is in the context of reading whole words. The grade 2 and grade 3 lesson plans appear to assume that students are already literate and able to read texts. Thus, one possible explanation for the higher percentage of zero scores in grade 3 is that more time had passed since students received specific instruction or practice in letter sounds, and they had forgotten them.

Figure 2. Percentage of students identifying 0, 1–10, 11–20, 21–30, and >30 correct letter sounds per minute (clspm) in grades 2 and 3

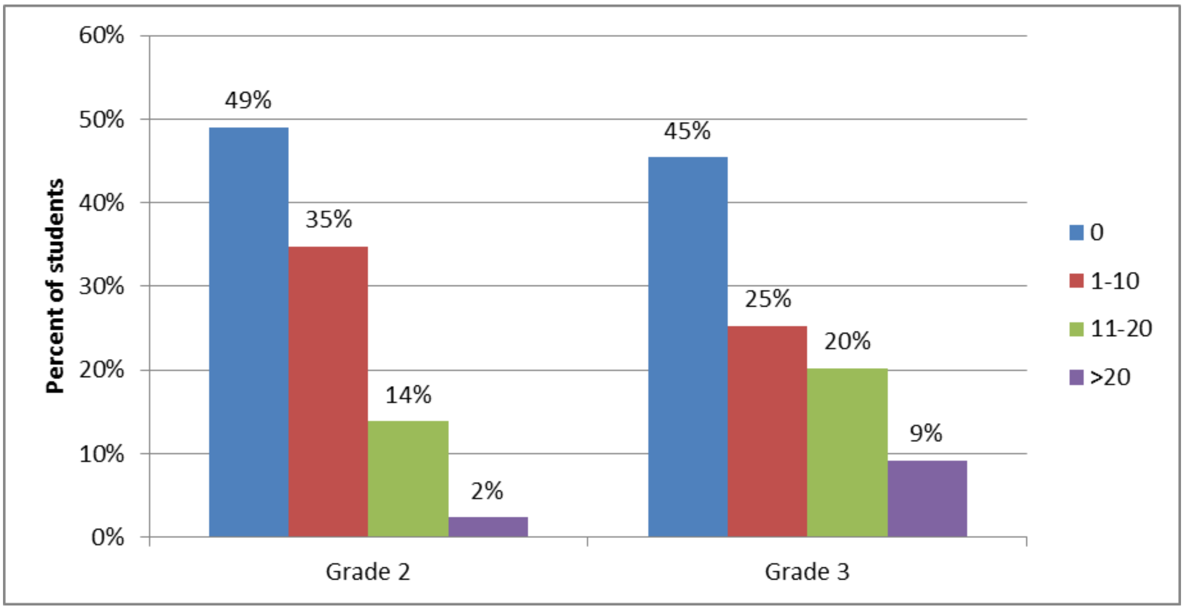


Invented Word Decoding

In the invented word subtask, students were presented with a chart containing 50 invented words with diacritics and were asked to pronounce as many of the words as they possibly could within one minute. Skill in reading invented words may be considered a purer measure of decoding than using real words, because students cannot recognize the words by sight. Although this subtask would not assess students' recognition of words that have been taught to them, decoding is considered a self-teaching skill that enables students to read new and unfamiliar words independently.

Scores for this subtask were the number of words the student could correctly read within one minute (correct non-words per minute [cnonwpm]). The results summarized in ***Figure 3*** show that reading invented words is considerably more difficult than reading passages containing familiar words. Indeed, almost half of students in grade 2 and 45% of grade 3students were unable to decode a single invented word. Students who could read at least one invented word showed limited success in doing so. Further, 35% of the grade 2 students and 25% of the grade 3 students decoded fewer than 11 invented words in one minute. Overall, students were successful in decoding 12% of the unfamiliar words that they attempted. Thus, these findings, combined with those from the letter-sound knowledge subtask, suggest that students need greater instruction in the sounds associated with the letters and diacritics and in applying strategies for decoding new words.

Figure 3. Percentage of students reading 0, 1–10, 11–20, and >20 invented words per minute in grades 2 and 3



Oral Reading Fluency

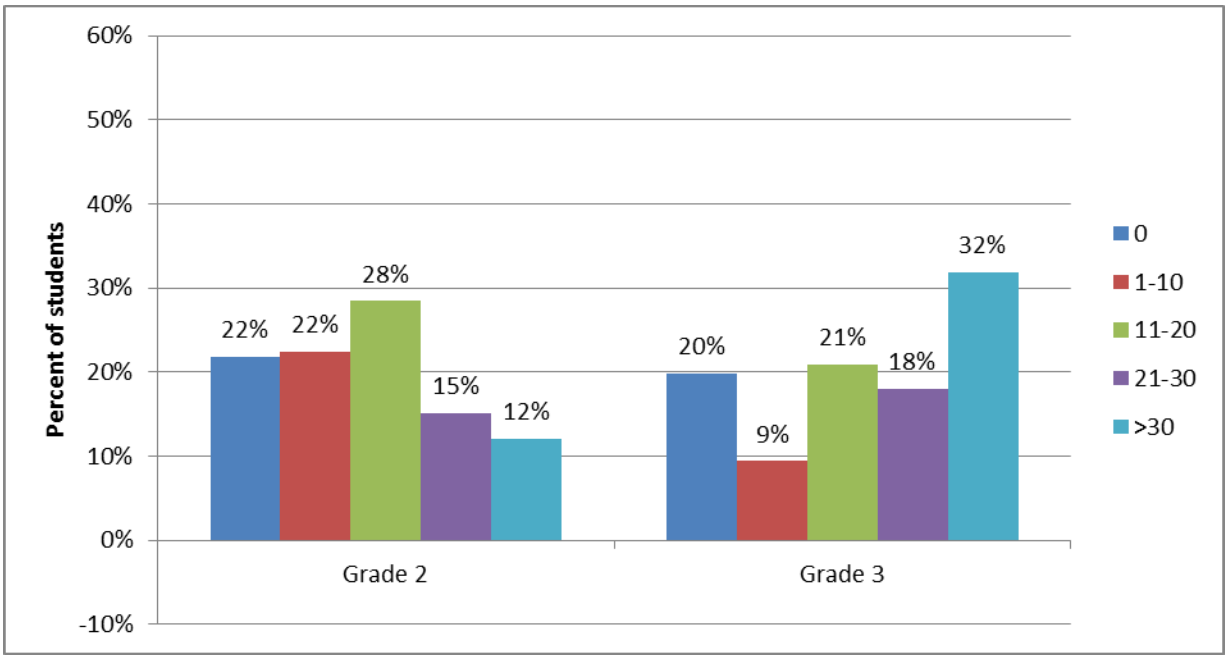
In the oral reading fluency subtask, students were asked to read a narrative passage of local relevance within one minute. Oral reading fluency may be considered an important index of reading competence, as it measures the skill and speed with which students translate letters into sounds, decode unfamiliar words, recognize known words, and simultaneously make sense of the text's meaning. Weakness in any one of these processes can slow or disrupt students' reading fluency. The score for this subtask was the number of words from the passage that students could correctly read in one minute (cwpm). ***Figure 4*** shows that 22% of the students in grade 2 and 20% of their peers in grade 3 could not read a single word.

Recall from Table 4 that the average oral reading fluency, including the zero scores, was 15.2 cwpm in grade 2 and 23.7 cwpm in grade 3. Among students who could read at least one word (see Table 9), students in grade 2 read on average 19.2 cwpm, and students in grade 3 read 29.5 cwpm.

The Jordanian curriculum states that in grade 2, students should be reading texts of 70-120 words, and in grade 3, texts of 120-170 words. Even in grade 1, students are expected to be able to read texts of 13-30 words by the end of the school year. The texts students read are typically followed by comprehension questions. Although the curriculum standards do not specify levels of fluency expressed in units of time, such as words read per minute, the EGRA oral reading fluency rates are less than half of the recommended 60 cwpm required for adequate comprehension. Further, students could correctly read half of the words they attempted.

Correlational analyses suggest that students' weak oral reading performance may be attributable to their limited knowledge of the letter names (with a small to moderate correlation of $r = .38$) and weak decoding skills, as measured with the invented reading subtask (with a moderate to large correlation of $r = .65$). Taken together, these findings show that students' limited mastery of the letter sounds and weak decoding skills must be addressed to improve their oral reading fluency.

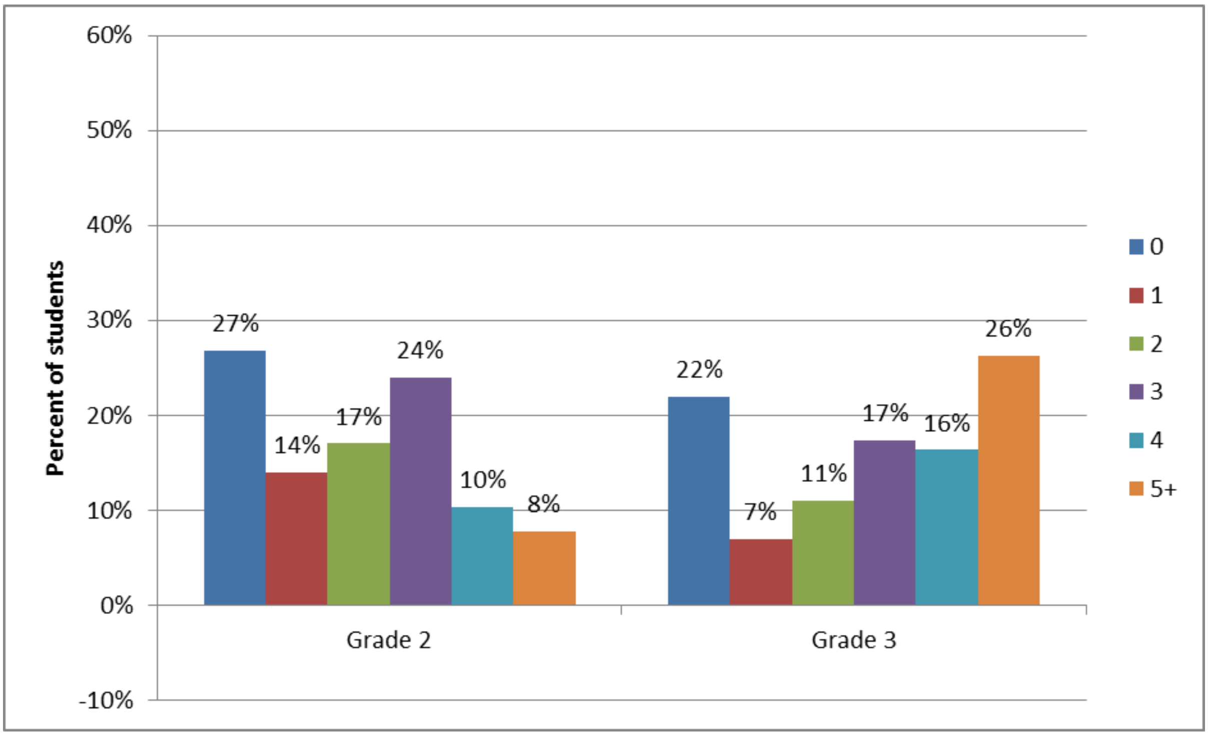
Figure 4. Percentage of students reading 0, 1–10, 11–20, 21-30, and >30 correct words per minute (ORF) in grades 2 and 3



Reading Comprehension

After students had read their assigned passage for one minute, they were asked questions about the story. Although a total of six questions were associated with the story, students were asked only those questions that corresponded with the portion of the story that they were able to read within the time limit. Questions were both literal, requiring students to directly recall information from the story; and inferential, requiring students to combine information from the story with their background knowledge to derive a correct answer. Students' reading comprehension scores were recorded as the number of correct responses. Overall, students had weak reading comprehension scores, with approximately one quarter of students unable to answer a single question ***(Figure 5).*** In grade 2, 27% of the students (Figure 5) could not answer a single question. Among grade 2 students who could answer at least one question, the average comprehension score was 2.8 (Table 9). Reading comprehension was stronger among grade 3 students, as only 22% of the students could not answer a single question (Figure 5), and students who could answer at least one question had an average score of 3.7 (Table 9).

Figure 5. Percentage of students obtaining reading comprehension scores of 0, 1, 2, 3, and 4+ in grades 2 and 3



Numerous large-scale studies and meta-analyses have reported robust correlations between oral reading fluency and reading comprehension.[19] In other alphabetic languages, the relationship between decoding speed and reading comprehension is particularly strong among beginning readers because their word recognition skills still require conscious control.[20] This relationship was supported by the large correlation (*r*

[19] See Abu-Rabia (2007); and also:

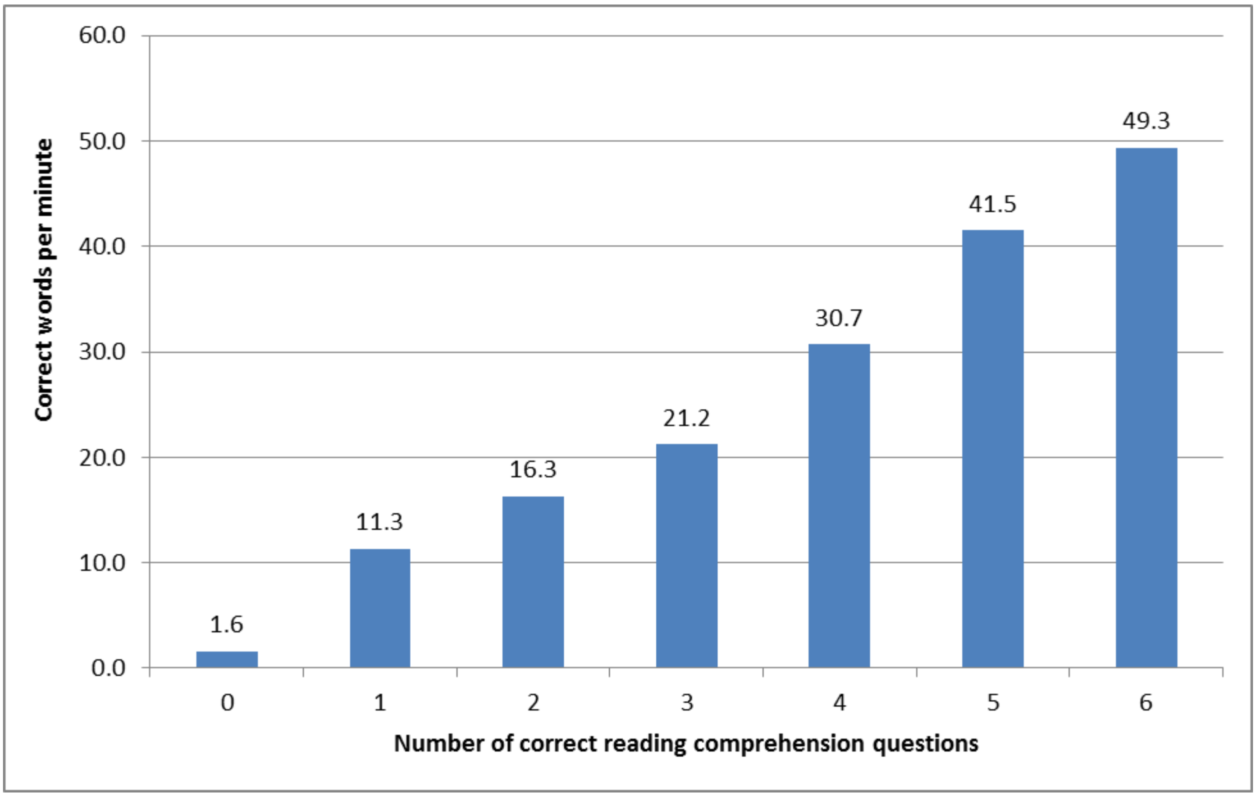
M.C. Daane, J.R. Campbell, W.S. Grigg, M. J. Goodman, & A. Oranje. (2005). *Fourth-grade students reading aloud: NAEP 2002 special study of oral reading (NCES 2006-469*). U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. Washington, DC: Government Printing Office.

G.S. Pinnell, J.J. Pikulski, K.K. Wixson, J.R Campbell, P.B. Gough, & A.S. Beatt. (1995). *Listening to children real aloud: Data from NAEP's Integrated Reading Performance Record (IRPR) at grade 4* (NCES 95-726). Washington, DC: U. S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.

[20] W.A. Hoover & P.B. Gough. (1990). The simple view of reading. *Reading and Writing: An Interdisciplinary Journal, 2*, 127–160.

= .84) between students' scores in oral reading fluency and reading comprehension. Similarly, ***Figure 6*** illustrates the well-documented relationship between oral reading fluency and reading comprehension. Students who could answer five of the six comprehension questions—a comprehension rate of 83% —read 41.5 cwpm on average, whereas those who could answer only one comprehension question correctly read only 11.3 cwpm on average. Students who were unable to answer a single comprehension question could read only 1.6 cwpm. These findings confirm that fluent oral reading is a critical component for reading comprehension.

Figure 6. Average number of reading comprehension questions answered correctly as a function of oral reading fluency scores

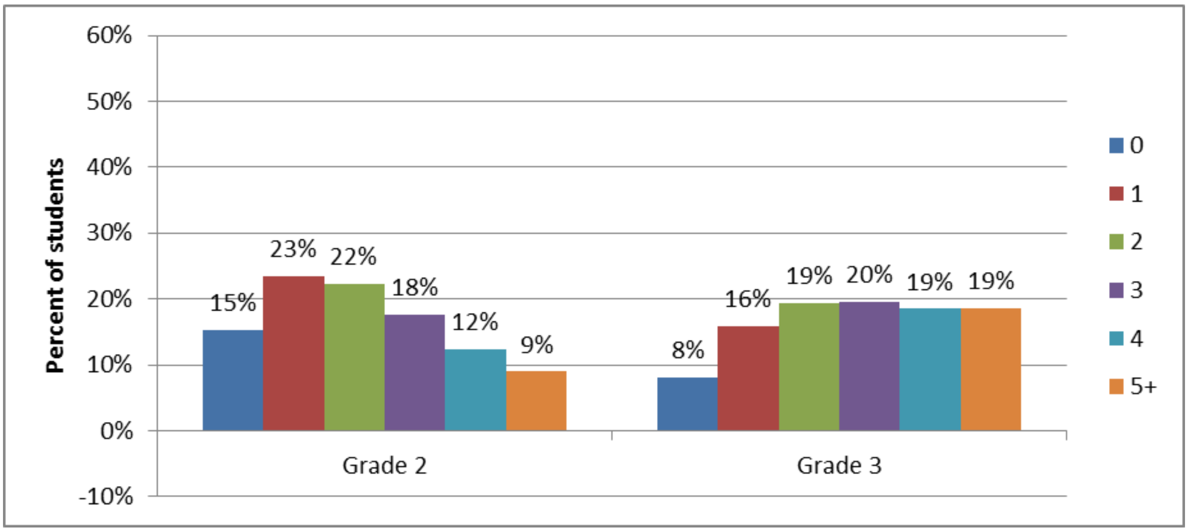


Listening Comprehension

In the EGRA listening comprehension subtask, the assessor read a short narrative story to the student, followed by six questions about that story. This was purely a listening subtask only, because the student was not given a copy of the story to follow along or have as reference when answering the questions. Although the listening comprehension subtask typically assesses a range of language and skills, such as attention, vocabulary knowledge, comprehension strategies, processing of oral language, and generation of appropriate replies, for Jordanian students, it also assessed their proficiency in the formal MSA, which differs from the vernacular dialect used in their homes. Comparing students' comprehension in these two modalities is important, because it allows determination of whether poor reading comprehension can be attributed to limited reading skills or to more general difficulties in comprehending the formal MSA used in schools.

In general, the listening comprehension subtask proved to be challenging to students ***(Figure 7).*** Although students' listening comprehension was stronger than their reading comprehension scores, their overall performance was still weak. A few students were unable to answer any listening comprehension questions, and only 9% of the students in grade 2 and 19% of the students in grade 3 answered at least five (or 83%) of the six listening comprehension questions correctly. Curricular expectations for grades 2 and 3 stress that reading and listening comprehension are key skills that students should master. By grade 2, students should be able to read and also be able to understand and answer questions about a simple 100-word text that is read to them by their teacher. These findings emphasize the often underestimated challenge that students who are schooled in Arabic must face: proficiency in the vernacular, home dialect does not prepare students for the linguistic demands of the formal MSA used in schools.

Figure 7. Percentage of students obtaining listening comprehension scores of 0, 1, 2, 3, 4, and 5+ in grades 2 and 3



The research team also examined the relationship between listening comprehension and reading comprehension. Whereas oral reading fluency shared a large correlation with reading comprehension (r = .84), listening comprehension's relationship with reading comprehension was more moderate (r = .52). Thus, it appears that in addition to students' decoding skills, students' reading comprehension also reflected their difficulties in comprehending oral stories in the formal dialect. Students would benefit not only from instruction that would build their decoding and word recognition skills, but also from instruction that would help them further develop their proficiency in the MSA required for school.

Analysis of extreme scores: How did low- and high-performing students do on EGRA subtasks?

Studying the processes involved in learning cognitive skills has resulted in valuable insight from closely examining how successful performance is achieved. The EGRA instrument was aimed to identify the specific domains and skills in which good readers excelled, to thus set the objectives and improve the performance of low-performing students. High-achieving readers, who were able to answer at least five, or all six, of the reading comprehension questions correctly (good-reader group), were scrutinized in how well they performed on EGRA's reading subtasks. The researchers also looked closely at students with low reading capabilities (poor-reader group), to identify discrepancies in basic reading skills that are relative to the top performers. Poor performers were identified as those who did not read a single word correctly from the text passage and who were unable to perform the reading comprehension subtask (see ***Table 12***).

Table 12. Number of observations in the sample, population size *(N),* mean, and standard error for each score of the EGRA subtasks, by good readers and poor readers

Scores	Reading level	No. of observa-tions	*N*	Mean	Standard error
Correct letter sounds per minute	Good readers*	492	28327	**33.2**	2.0
	Poor readers**	593	32874	**14.4**	1.3
Correct invented words per minute	Good readers	492	28327	**12.7**	0.8
	Poor readers	593	32874	**0.3**	0.1
Oral reading fluency (text reading)	Good readers	492	28269	**45.1**	1.3
	Poor readers	593	32874	**0.0**	0.0
Total number of correct answers, reading comprehension	Good readers	494	28411	**5.5**	0.0
	Poor readers	593	32874	**0.0**	0.0
Percentage of correct answers out of questions attempted, reading comprehension	Good readers	494	28411	**0.9**	0.0
	Poor readers	593	32874	**0.0**	0.0
Total number of correct answers, listening comprehension	Good readers	493	28390	**3.9**	0.1
	Poor readers	448	27985	**1.7**	0.1

***Note**: Good readers = well performing readers; poor readers = poor performing readers.

The comparison of poor performing readers and good readers clearly indicates that students who were able to understand most of the text were able to perform substantially better on all EGRA subtasks than students who could not comprehend the text and could not read any of the words in the short reading passage presented. Poor readers identified the sounds of 14.4 letters per minute on average, were able to read less than one (0.3) invented word per minute, and answered fewer than two (1.7) of the six listening comprehension questions, on average.

However, students with high reading comprehension skills attained average scores of 33.2 correct letter-sounds per minute, 12.7 invented words per minute, and 45.1 correct words per minute (or ORF), in addition to being able to respond to nearly all of the listening comprehension questions correctly (5.5). Figure 5 above shows that 8% of grade 2 students and 26% of grade 3 students were good readers.

The Jordanian curriculum places an emphasis on reading for understanding in grades 2 and 3. Students at these grade levels are expected to be able to read accurately and understand a short text (70–120-word texts in grade 2 and 120–170-word texts in grade 3). Given that all skills assessed in EGRA subtasks play a role in students' ability to read and understand print, scrutinizing the EGRA scores of good readers can enlighten our understanding of the gaps in learning that remain to be closed. Good readers' scores can be used as benchmarks for improving reading comprehension in all students. Results suggest that, on average, students need to increase their letter-sounding scores of 26.4 letters per minute (Table 10). To be on the same level with a good reader's decoding skills, students need to more than double their invented word reading. Oral reading fluency also needs to more than double, on average, in both grades in order to equal a good reader's ability (overall average ORF for all students is 19.4 [Table 10], whereas good readers can read 45.1 cwpm). With 2.5 comprehension questions on average answered correctly in grades 2 and 3, language comprehension is indeed an area of improvement that would need to be considered for most students in order to foster greater reading comprehension.

How is Reading Taught in Jordan?

Students' performance on the EGRA can be better understood in the context of how reading instruction is provided to Jordanian students. Although the Jordanian Ministry of Education now provides free preschool and kindergarten education in some areas,[21] many students begin formal elementary schooling in grade 1. The Arabic language arts curriculum for grades 1 to 3 explicitly addresses the four essential language skills for mastering Arabic's formal dialect (MSA): listening, speaking, reading, and writing.

Listening skills are promoted with texts that are 40 words in length in grade 1, or are 100 words and longer in grades 2 and 3, with students responding to the texts with drawings (in grade 1) or written responses (in grades 2 and 3). Activities that promote students' skill at speaking in the formal MSA involve students orally responding to prompts. For example, students in grade 1 may be asked to describe a picture, whereas students in grades 2 and 3 may tell a short story or compare two situations.

Reading instruction in grade 1 tends to take a holistic approach to word recognition, in that students learn, beginning with a sentence, then focus on words by their outline shape, and end with students analyzing individual letters within words.[22] Thus, whereas word recognition is taught using holistic strategies, analytic strategies are used to teach letter-sound knowledge, whereby students learn the different forms of

[21] Amr, M. (2009). *Dyslexia in the Arabic language: Graphical features of the Arabic text and reading accuracy in the context of teaching reading in Jordan*. Unpublished doctoral dissertation.
[22] Ibid.

each letter and their associated sounds. Reading instruction in grade 2 focuses on the recognition of longer and more complex words, yet it also expands to address basic reading comprehension.[23] In grade 3, reading instruction focuses on building students' fluency in word recognition, supporting the holistic recognition of irregular words, and fostering more complex reading comprehension skills.[24]

Writing instruction plays an important role in supporting students' reading skills. In grade 1, students practice writing letters, blocks, words, and short sentences from sight and dictation. In grades 2 and 3, writing activities promote students' mastery of spelling conventions, rules of the script,[25] grammar, and punctuation through dictation, filling-in-the-blank activities, and unscrambling sentences. Students are also required to write sentences and longer responses to questions and prompts, to build their communication skills.

3.1.2 EGMA Results

Almost all subtasks indicated progression in student performance from grade 2 to grade 3. This progression was greatest on the missing number and word problem subtasks. The results create the general impression (see ***Figure 8***) that the students are more successful on those subtasks that assess more procedural knowledge: number identification and addition and subtraction level 1. By contrast, the students performed less well on the subtasks that involved more conceptual understanding, namely the missing number, addition and subtraction level 2,[26] and the word problem tasks.

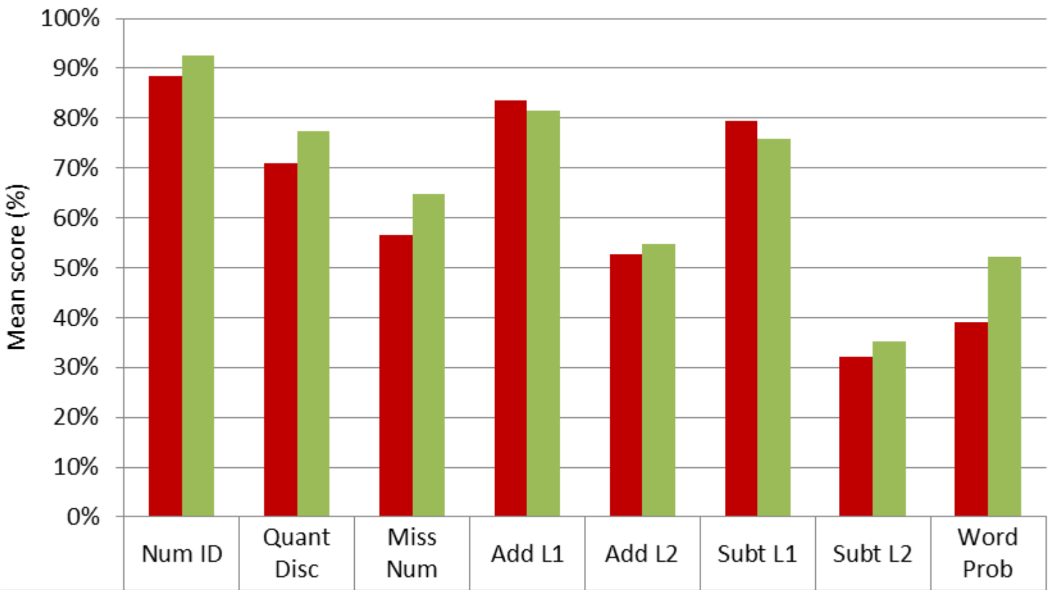
[23] Ibid.

[24] Ibid.

[25] Naskh is the name of the style of Arabic script or calligraphy that is taught in schools in Jordan.

[26] Level 2 problems are more conceptual than level 1 problems because the student must understand what he or she is doing (these items do not represent memorized facts) and also apply level 1 skills. Level 2 problems are not purely conceptual, but are more conceptual than level 1, especially so for grade 2 and grade 3 students.

Figure 8. Students' EGMA mean scores: Number of correct answers from number of attempted items, by subtask and grade



	Num ID	Quant Disc	Miss Num	Add L1	Add L2	Subt L1	Subt L2	Word Prob
Grade 2	89%	71%	57%	84%	53%	79%	32%	39%
Grade 3	93%	77%	65%	82%	55%	76%	35%	52%

Table 13 shows the average percentage of tasks answered correctly out of the number of items attempted for each subtask and grade. Although these results show a positive progression from grade 2 to grade 3, a 4% increase, on average, from grade 2 to grade 3 is less than we would expect from the benefit of an additional year of schooling. At first glance, it would appear as if the grade 3 students have not gained much during the additional year that they have spent at school in terms of the skills assessed by EGMA.

In general, an overall trend across subtasks is evident—students performed best on number identification, quantity discrimination, and the more procedural level 1 addition and subtraction subtasks. The level of performance on these tasks should be pleasing to the Ministry of Education; it is clear that the students are learning at least basic skills and procedures and are doing well. However, students struggled with the more conceptual subtasks: missing number, level 2 addition and subtraction, and word problems. Although students appear to answer the more procedural level 1 addition and subtraction items with confidence—83.6% for addition and 79.4% for subtraction in grade 2, and 81.6% for addition and 75.9% for subtraction in grade 3. Students' performances drop by 31% (in grade 2) and 27% (in grade 3) from addition in level 1 to addition in level 2, and by more than 47% (in grade 2) and 41% (in grade 3) from subtraction in level 1 to subtraction in level 2.

Table 13. Mean automaticity (fluency) scores and percentages out of items attempted for each EGMA subtask, by grade

Subtasks	Grade 2		Grade 3	
	# Correct/ minute	% Correct/ attempted	# Correct/ minute	% Correct/ attempted
Number identification	32.1	88.6%	37.8	92.6%
Quantity discrimination	8.7	70.9%	10.6	77.5%
Missing number	4.8	56.6%	6.0	64.8%
Addition (level 1)	13.6	83.6%	14.6	81.6%
Addition (level 2)	2,4	52.7%	2.9	54.8%
Subtraction (level 1)	11.4	79.4%	12.1	75.9%
Subtraction (level 2)	1.3	32.0%	1.8	35.3%
Word problems		39.2%		52.2%

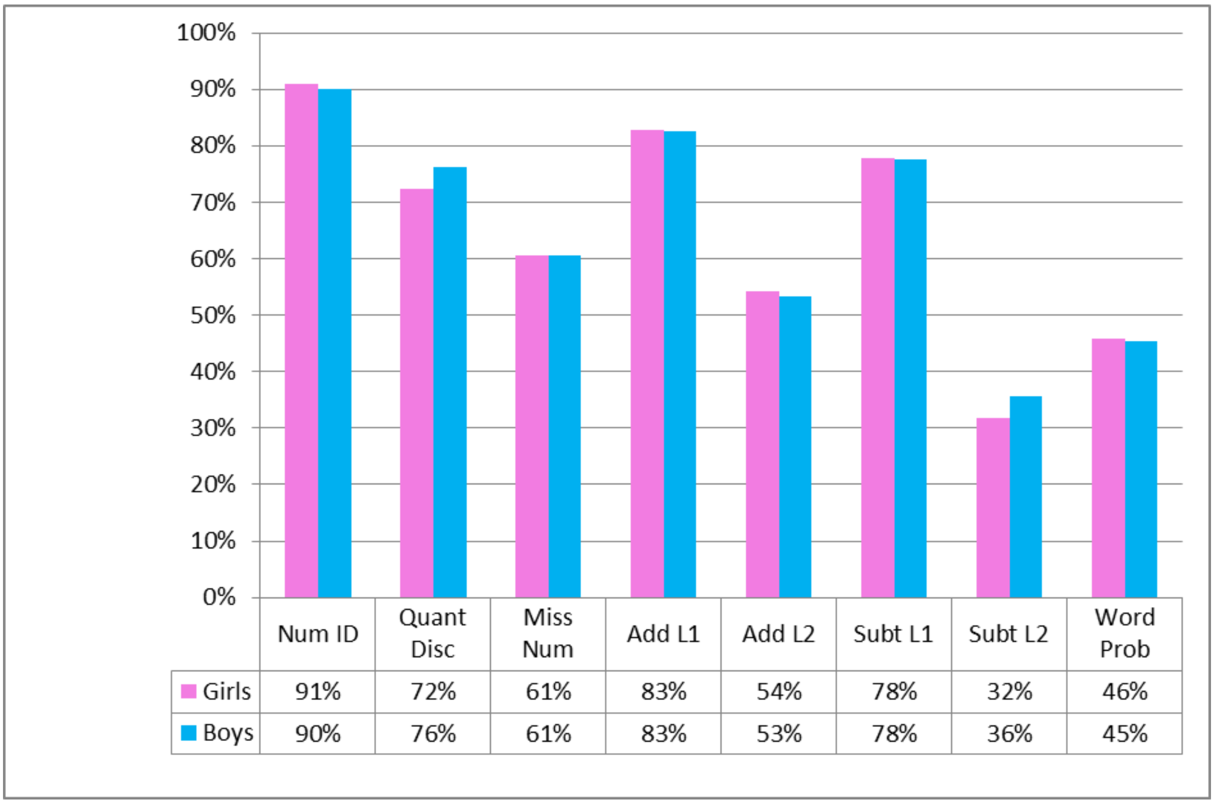
Also noted is a decline in automaticity/fluency (number correct/minute) as the students move from the more procedural subtasks to the more conceptual ones, with the missing number and subtraction level 2 all having a fluency/automaticity rate of less than 6 correct items per minute compared with rates over and near 11 correct items per minute on the subtasks that assess more procedural skills.

It is not enough for students to memorize mathematical facts, rules, and procedures. If they do not understand what they are doing and are unable to apply their more procedural knowledge (assessed in the number identification, quantity discrimination, and addition and subtraction level 1 subtasks) to solve problems that rely on the application of this knowledge, then their future mathematical development is at risk.

Differences by gender, region, and urban/rural

When the performance is disaggregated by gender at the national level (see ***Figure 9***), there is no noticeable difference in performance across the genders. This is encouraging, as it may suggest that Jordanian girls and boys experience their mathematics education in much the same way.

Figure 9. Students' EGMA mean scores: Number of correct answers from number of attempted items, by subtask and gender



As with the EGRA, for EGMA we also looked for differences in performance by school gender. ***Table 14*** shows only a weakly significant difference between types of schools on the addition level 1 subtask.

Table 14. Average EGMA scores, by school gender

Subtask	All boys	All girls	Mixed gender
Number Identification (cnumidpm)	34.9	36.0	34.7
Quantity Discrimination (cqcpm)	10.1	9.5	9.5
Missing number (cmissnumpm)	5.3	5.5	5.4
Addition – level 1 (caddpm1)*	14.1	15.2	13.9
Addition – level 2 (caddpm2)	2.6	2.7	2.6
Subtraction – level 1 (csubpm1)	11.9	12.6	11.6
Subtraction – level 2 (csubpm2)	1.6	1.4	1.5
Word Problems	1.3	1.3	1.2

* indicates the difference in means is significant at the .05 level.

Regional differences in performance were found to be weakly significant on the Addition level 1 and Subtraction level 2 subtasks, and a moderate significance was found on the number identification subtask (see ***Table 15***).

Table 15. Average EGMA scores, by region

Subtask	North	Middle	South
Number Identification (cnumidpm)**	36.9	34.6	30.6
Quantity Discrimination (cqcpm)	10.0	9.5	9.1
Missing number (cmissnumpm)	5.5	5.3	5.6
Addition – level 1 (caddpm1)*	14.9	14.0	12.0
Addition – level 2 (caddpm2)	2.8	2.4	3.1
Subtraction – level 1 (csubpm1)	12.2	11.7	10.7
Subtraction – level 2 (csubpm2)*	1.5	1.3	2.3
Word Problems	1.3	1.1	1.3

* indicates the difference in means is significant at the .05 level.

** indicates the difference in means is significant at the .01 level.

*** indicates the difference in means is significant at the .001 level.

As with the EGRA sub-tasks, there were no significant differences in performance between students in urban schools and students in rural schools (see ***Table 16***).

Table 16. Average EGMA scores, by urban/rural

Subtask	Urban	Rural
Number Identification (cnumidpm)	35.5	33.6
Quantity Discrimination (cqcpm)	9.7	9.5
Missing number (cmissnumpm)	5.4	5.3
Addition – level 1 (caddpm1)*	14.5	13.3
Addition – level 2 (caddpm2)	2.7	2.5
Subtraction – level 1 (csubpm1)	12.0	11.4
Subtraction – level 2 (csubpm2)	1.5	1.5
Word Problems	1.2	1.2

* indicates the difference in means is significant at the .05 level.

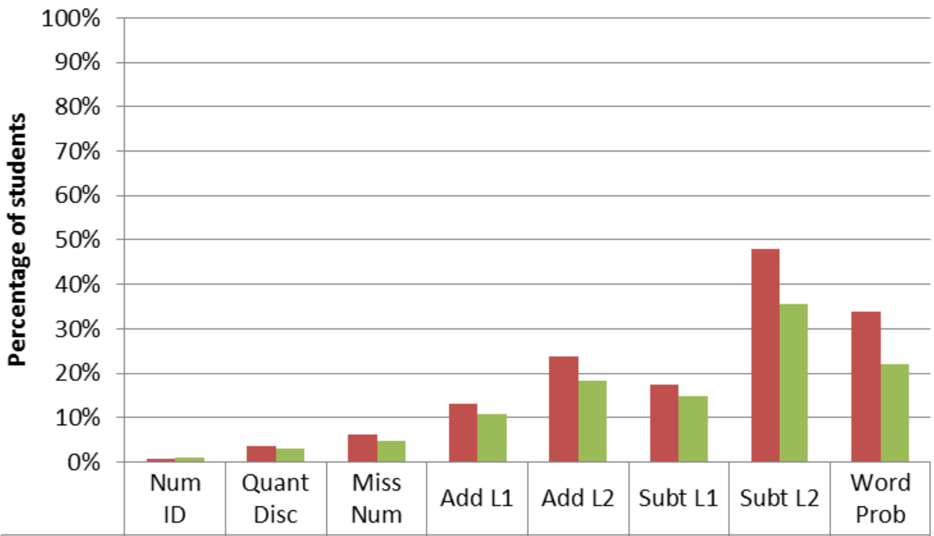
** indicates the difference in means is significant at the .01 level.

*** indicates the difference in means is significant at the .001 level.

EGMA zero scores

Across the EGMA overall, some zero scores were noted on every EGMA subtask, most markedly in the addition (level 2), subtraction (level 1 and level 2), and word problem subtasks. ***Figure 10*** shows the percentages of students who were not able to respond correctly to a single item on each subtask in each grade. As with the overall trend, a zero score trend across subtasks is evident—students had fewer zero scores on those subtasks where they performed best, namely on number identification, quantity discrimination, and the more procedural level 1 addition and subtraction subtasks. However, 13% of grade 2 students were not able to answer a single addition level 1 problem correctly, and 18% were unable to answer a single subtraction level 1 problem correctly. These subtasks consist of basic (procedural) addition and subtraction problems, such as “4 + 5 = □” and “5 – 2 = □”. More striking, however, is the sharp increase in zero scores on the more conceptual subtasks with 24% of grade 2 students and 18% of grade 3 students unable to answer a single addition level 2 problem correctly, where the cognitively least demanding of these questions was “16 + 3 = □”. On the subtraction level 2 subtask, 48% of grade 2 students (nearly one half) and 36% of grade 3 students were unable to answer a single problem correctly, where the cognitively least demanding of these questions was “19 – 3 = □”. Similarly, in the case of the more conceptual word problem subtask, we see that a fair percentage of the grade 2 (34%) and fair percentage of the grade 3 students (22%) were unable to answer a single problem correctly.

Figure 10. Percentages of students with EGMA zero scores, by subtask and grade



	Num ID	Quant Disc	Miss Num	Add L1	Add L2	Subt L1	Subt L2	Word Prob
Grade 2	1%	4%	6%	13%	24%	18%	48%	34%
Grade 3	1%	3%	5%	11%	18%	15%	36%	22%

Number identification

This number identification subtask targeted the students' knowledge and identification of written symbols. It assessed a student's recognition and understanding that each of the numbers is a constant, with one number-word associated with it, and that the student knows the number-word(s) associated with the number symbol.

Grade 2 students were able to correctly identify an average of 32 numbers in one minute, while grade 3 students were able to correctly identify 38 numbers in one minute. Grade 2 students were accurate 88% of the time (percentage correct out of attempted) and grade 3 students were accurate 93% of the time. Slightly less than 1% of grade 2 students and slightly less than 1% of grade 3 students had zero scores on this subtask.

Number identification items

3	9	0	12	30
22	45	39	23	48
91	21	74	87	65
108	245	580	731	989

٣٠	١٢	٠	٩	٣
٤٨	٢٣	٣٩	٤٥	٢٢
٦٥	٨٧	٧٤	٢١	٩١
٩٨٩	٧٣١	٥٨٠	٢٤٥	١٠٨

Of the subtasks in the EGMA, this one was the most basic, and the results indicate that students are able to identify numbers with both pleasing fluency and accuracy. According to the Jordanian curriculum, students should have mastered identification of numbers through 9,999 by the end of grade 2.

Quantity discrimination

Quantity discrimination in EGMA measures students' ability to make judgments about differences by comparing quantities, which are represented by numbers. The quantity discrimination subtask measures the students' sense of "muchness"—do they have a sense of how big a number/quantity is, and can they compare two numbers/quantities. Being able to compare numbers/quantities is a foundational mathematical skill that is critical to effective and efficient problem-solving strategies. For example, being able to compare numbers/quantities is important when estimating the reasonableness of answers to problems: in the early school years, addition results in a larger number, subtraction produces an answer that is smaller than at least one of the original numbers, multiplication can result in answers that are larger than the addition of the same numbers, and so on.

Quantity discrimination items

5	7	78	94
25	12	153	146
29	34	537	287
48	58	605	650
67	65	967	965

٩٤	٧٨	٧	٥
١٤٦	١٥٣	١٢	٢٥
٢٨٧	٥٣٧	٣٤	٢٩
٦٥٠	٦٠٥	٥٨	٤٨
٩٦٥	٩٦٧	٦٥	٦٧

As with the number identification section, the quantity discrimination section saw positive growth from grade 2 to grade 3, with the average accuracy rising from 70.9%

to 77.5% (percentage correct out of attempted) (see Table 13). Students performed best on the single-digit item (item 1: 2 versus 5) and, generally speaking, performed better on the two-digit number items than on the three-digit number items. On the two-digit items, the items with which students had the most difficulty were those where both the tens' and ones' digits were different. For example, while over 86% of grade 2 students and 93% of grade 3 students were able to identify the larger number between 12 and 25, only 56% of grade 2 students and 78% of grade 3 students could identify the larger number between 29 and 34. A similar trend can be observed across the three-digit numbers. These trends are encouraging, because they suggest that students appear to be aware of the role of place value, and on those items where they have to pay attention to more variables, they struggle more than on the items where they do not.

According to the Jordanian curriculum, students should be able to compare and arrange numbers up to 9,999 by the end of grade 2.

Missing number

As described earlier, for this missing number subtask, students were shown four place holders with numbers in a sequence and one placeholder was left blank for a next or missing number. The student was asked to determine and name the missing number. The subtask assessed students' ability to discern and complete number patterns. Being able to recognize number patterns, including counting in patterns (by ones, tens, hundreds, fives, and twos, etc., both forwards and backwards), lays the foundation for other mathematical concepts such as multiplication and division and, later, algebra. Being able to identify patterns more generally aids students in problem solving—mathematics is the study of patterns.

Sample missing number items

5	6	7	
14	15		17
30		50	60
	300	400	500
	٧	٦	٥
١٧		١٥	١٤
٦٠	٥٠		٣٠
٥٠٠	٤٠٠	٣٠٠	

On average, students in grade 2 responded correctly to 57% of the items attempted at a fluency rate of just under five items per minute, and grade 3 students responded correctly to 65% of the items attempted at a fluency rate of approximately six items per minute. Students had more difficulty with items where the pattern was not a simple count-forwards-by-one pattern in a low number range (such as for items 1 and 2). Solving the missing number problems in the EGMA subtask involves studying the evidence available and using this to determine the step size of the pattern, as well as whether the pattern is increasing or decreasing, and then determining the missing number by extending the existing pattern. In the case of items 1 to 9, the patterns are no more than the standard counting patterns that grade 2 and grade 3 students should have been exposed to at school. If students have indeed been exposed to these patterns, the likelihood is that they have been more exposed to them as chanting (procedural) patterns only, with little analysis (conceptual understanding) of them.

The low performance on item 5(increasing a single-digit pattern with step size of two) is of some concern. The lower performance on items 6to 9,which included step sizes of one and ten in a larger number range (items 6and 9, respectively), step size of five (item 8), and a decreasing pattern with a step size of two in a low number range (item 7), all coupled with the fact that only 6% of the students in the entire study could answer the last item correctly (an increasing pattern with a step size of five in a relatively low number range, but with items that are not multiples of five), reinforces the impression that Jordanian students experience and know their mathematics in a largely procedural way, which does not nurture an understanding or foster the ability of students to apply their mathematics to solving unfamiliar problems.

According to the Jordanian curriculum, students should be able to extend increasing and decreasing patterns with step sizes of one, two, three, five, and tens (and their doubles) up to 999 and increasing and decreasing patterns with step sizes of twenty-fives and fifties and their doubles up to 500 by the end of grade 2.

Addition and subtraction (level 1)

As described earlier, both addition and subtraction were assessed in two different tasks. The so-called level 1 tasks consisted of items for which it is expected that students should develop some level of automaticity/fluency. The items on these tasks represent the foundational addition and subtraction "facts" that are at the heart of addition and subtraction with numbers in larger number ranges. Without achieving some level of automaticity/fluency on the range of addition and subtraction "facts" represented by these items, there is little expectation that students will be able to perform addition and subtraction (or even multiplication and division) in higher number ranges.

Sample addition and subtraction level 1 items

1 + 3 = ☐	4 – 1 = ☐
6 + 2 = ☐	8 – 2 = ☐
3 + 3 = ☐	6 – 3 = ☐
7 + 3 = ☐	10 – 3 = ☐
5 + 5 = ☐	10 – 5 = ☐

٤ – ١ = ☐	١ + ٣ = ☐
٨ – ٢ = ☐	٦ + ٢ = ☐
٦ – ٣ = ☐	٣ + ٣ = ☐
١٠ – ٣ = ☐	٧ + ٣ = ☐
١٠ – ٥ = ☐	٥ + ٥ = ☐

Although there is a slight drop in performance by both the grade 2 and grade 3 students from the addition level 1 to the subtraction level 1 (from 84% to 79% for the grade 2 students and from 82% to 76% for the grade 3 students), students in both grades perform well (with a high degree of accuracy) on the level 1 tasks, the mean scores for the tasks are high, and the percentage with zero scores is reasonably low.

An interesting, and possibly counter-intuitive, observation is that the grade 2 students appear to respond to the level 1 tasks with slightly greater accuracy than the grade 3 students do (84% versus 82% and 79% versus 76%). This can be explained by the fact that grade 2 students are answering fewer questions in the time available than grade 3 students are, which is reflected in the greater fluency (automaticity) of the grade 3 students (15 versus 14 and 12 versus 11 correct responses per minute). It would appear as if the performance on the level 1 tasks is very similar for both grades, what the one grade gains in accuracy, the other gains in fluency (automaticity).

According to the Jordanian curriculum, students should be able to add and subtract single digit numbers mentally within the number range 1 to 20 by the end of grade 1.

Addition and subtraction (level 2)

The level 2 addition and subtraction tasks assessed students' conceptual understanding of addition and subtraction, as well as their ability to apply the procedural knowledge that had been assessed in the level 1 subtasks to more complex tasks. Students were allowed to use paper and pencil to help them solve these questions, although if they used paper and pencil only to solve the addition and subtraction problems by drawing lines, they were asked if they knew another method for solving these problems. If they did, they were encouraged to use it. Students who did not solve a single problem correctly at the level 1 versions of these tasks were not asked to solve the level 2 problems.

Addition and subtraction level 2 items

16 + 3 = ☐	19 – 3 = ☐
18 + 7 = ☐	25 – 7 = ☐
24 + 12 = ☐	36 – 12 = ☐
22 + 37 = ☐	59 – 37 = ☐
38 + 26 = ☐	64 – 26 = ☐

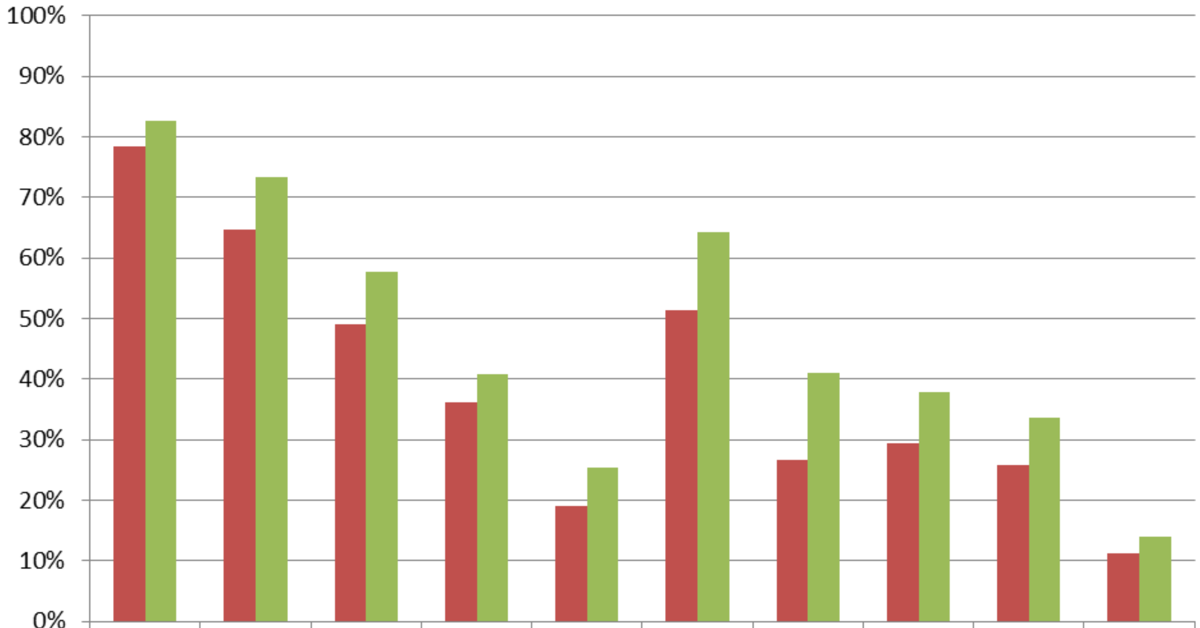
١٩ – ٣ = ☐	١٦ + ٣ = ☐
٢٥ – ٧ = ☐	١٨ + ٧ = ☐
٣٦ – ١٢ = ☐	٢٤ + ١٢ = ☐
٥٩ – ٣٧ = ☐	٢٢ + ٣٧ = ☐
٦٤ – ٢٦ = ☐	٣٨ + ٢٦ = ☐

A marked decline can be noted in performance on the level 2 addition and subtraction tasks when compared with the level 1 tasks. The performance of the grade 2 students drops by 31% for addition, from 84% (addition level 1) to 53% (addition level 2), and by 47% for subtraction, from 79% (subtraction level 1) to 32% (subtraction level 2). The performance of the grade 3 students drops by 27% for addition, from 82% (addition level 1) to 55% (addition level 2), and by 41% for subtraction, from 76% (subtraction level 1) to 35% (subtraction level 2). A related decline is evident for both grades on the fluency/automaticity scores.

Figure 11 shows the performance by students on each of the tasks in the level 2 addition and subtraction subtasks.

Analysis of student performance on the addition and subtraction level 2 items shows two very clear trends. Firstly, there is a marked drop-off in performance from one item to the next as the items increase in complexity, and secondly, performance on the subtraction items is well below that of the performance on the addition items. The first item in each subtask (16 + 3 = □ and 19 – 3 = □) involves a double digit number (with a value less than 20), a single digit number, and does not require the bridging of the 10. Observing the students attempting this item during the testing showed that many students simply solved this on their fingers. The same is true for the second item, which involves a double digit number, a single digit number, and the bridging of the 20. The real drop-off in performance occurs from the third item onward. Although neither of the third and fourth items involves the bridging of a 10, and even though the number range remains low, it is clear that the students do not see a connection between the addition and subtraction that they did on the level 1 items and the level 2 items. The last item involves addition and subtraction with double-digit numbers and the bridging of a 10. While the performance on the addition item is slightly better than the performance on the matching subtraction item, it is clear that students are not able to respond to these items with the same confidence that we see on the level 1 items.

Figure 11. Addition and subtraction level 2 subtasks: Percentage of students with correct responses on each item, by grade



	Addition level 2					Subtraction level 2				
	16 + 3	18 + 7	24 + 12	22 + 37	38 + 26	19 - 3	25 - 7	36 - 12	59 - 37	64 - 26
Grade 2	78%	65%	49%	36%	19%	51%	27%	29%	26%	11%
Grade 3	83%	73%	58%	41%	25%	64%	41%	38%	34%	14%

If, as we expect, the items in the level 1 tasks are indeed foundational to the performance of the level 2 tasks, then we might expect some positive correlation between the performances on the two different level tasks. Intuitively, we might expect that the students who perform with greater fluency/automaticity and greater accuracy on the level 1 items would also be the students who perform well or at least better on the level 2 items. Sadly, there is no strong evidence of such a relationship in the data. One possible explanation for this, and for the apparent lack of transfer of skills from the level 1 items to the level 2 items, is that many of the students who appear to know the answers for the level 1 items may not so much know them in a "know and understand" sense, but that they have memorized the answers to these questions rather than "understanding" what they are doing. Because they have only memorized these "facts," they are unable to use them in solving problems that rely on the understanding and application of these facts.

According to the Jordanian curriculum, students should be able to add and subtract within the number range 1 to 9,999, using a range of different strategies that they can explain by the end of grade 2.

Word problems

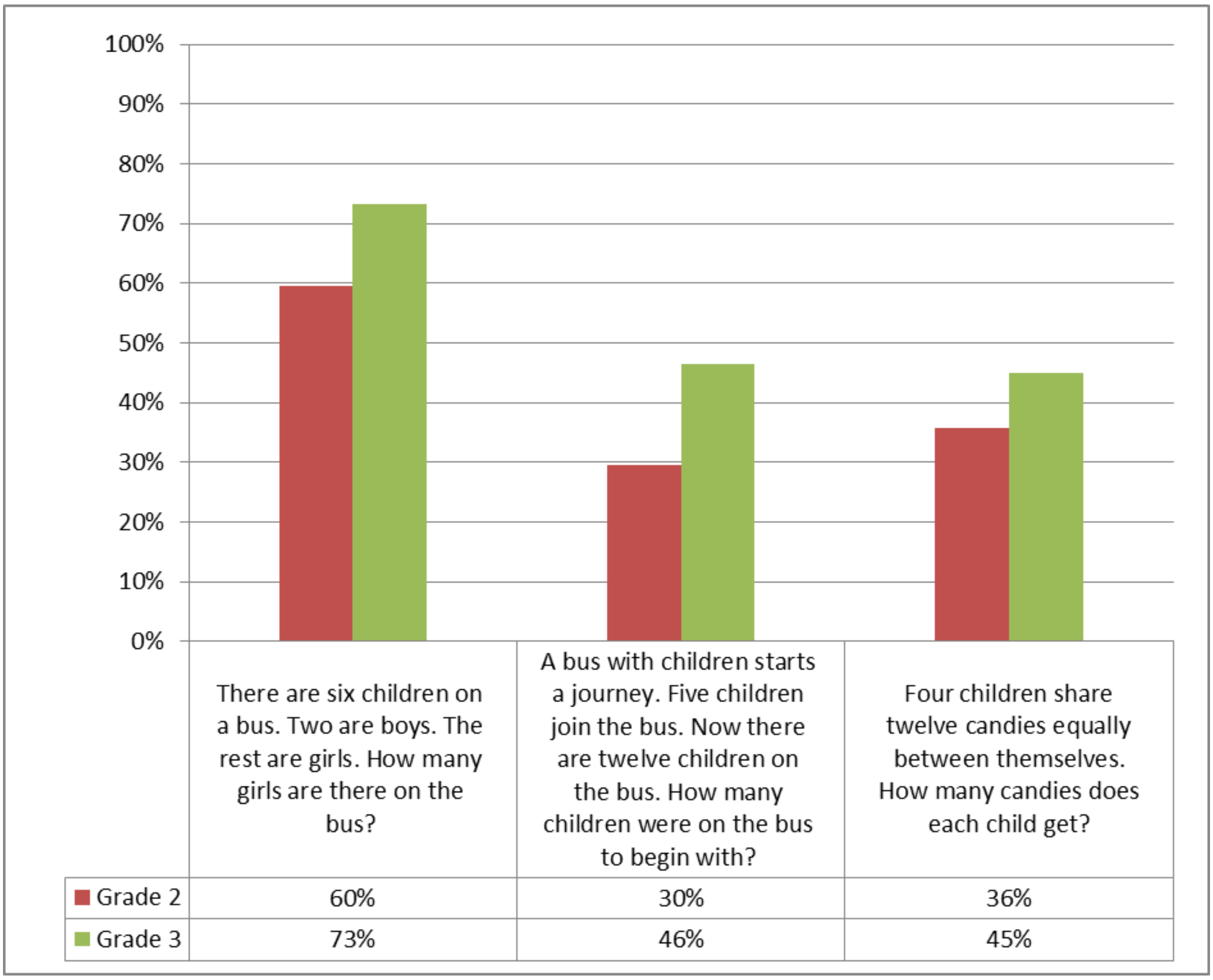
When the pilot data for the Jordanian EGMA study revealed that the number identification subtask may not produce interesting data beyond the observation that most students are able to identify up to three-digit numbers with confidence, it was decided to include a short subtask to assess the ability of students to answer word problems. The word problem items assessed the ability of students to interpret a situation (presented to them in words), make a plan, and solve the problem. Because the focus was on assessing the students' ability to interpret a situation, make a plan, and solve a problem, the numerical values involved in the problem were deliberately small to allow for the targeted skills to be assessed without being confounded by problems with calculation skills that might otherwise impede performance. The situations used were designed to provoke different mathematical solutions. The word problem task was untimed, and students were allowed to use paper and pencils as well as counters to help them solve the problems. ***Figure 12*** summarizes the performance of the students on the word problem items, by grade.

The first word problem is a relatively straightforward comparison problem, with the structure $2 + \square = 6$ which could also have been interpreted as $6 - \square = 2$. Both the grade 2 and grade 3 students performed well on this task. The second word problem has a more complex structure in that the problem has an unknown value to which a known number is added and the final sum is also known: ($\square + 5 = 12$). The third problem is a straightforward sharing problem. The trend across the items and grades is two-fold. On the one hand, as the complexity of the situation increases, the percentage of students answering the questions correctly decreases; on the other hand, it is interesting to notice that even with the more complex situations that require quite some interpretation on the part of the student, the students in both grades are performing better on these items than they are on most of the subtraction level 2 items and more than a few of the addition level 2 items.

The encouragement to be taken from the performance on the word problems is that it suggests quite clearly that the portion of students that are able to answer these questions correctly are able to interpret a situation, make a plan, and solve a problem—that is, they are capable of engaging with tasks that are more conceptually demanding. This raises the question of why students struggle with the other conceptually more demanding subtasks: missing number and addition and subtraction level 2. It is worth considering the possibility that a larger proportion of Jordanian students are experiencing mathematics as a purely procedural activity, and so their focus in mathematics is on choosing and performing a procedure. When, however, they are faced with a contextually meaningful problem that does not "look like" the more typical classroom mathematics tasks, they are freed from looking for "the" procedure and instead engage with the situation and solve it.

According to the Jordanian curriculum, students should be able to solve one-step contextually based (word) problems by the end of grade 2.

Figure 12. Word problem subtask: Percentage of students with correct responses on each item, by grade



3.1.3 How is Student Reading Achievement Related to Achievement in Mathematics?

This section discusses the results of multiple regression models to examine the relationship between reading achievement and mathematics achievement. That is, students' scores on each of the EGRA subtasks were compared to their scores on each of the EGMA subtasks. All of the mathematics subtasks were significantly related to reading performance. These relationships were statistically significant, yet they ranged in size from small to moderate. Student performance in oral reading fluency and reading comprehension shared the most robust relationships with each of the mathematics subtasks. For example, student performance on Level 1 addition and subtraction subtasks explained about one quarter of the variance in students' scores in oral reading fluency ($R^2 = .26$) and reading comprehension ($R^2 = .28$). Similarly, students' scores on the missing number, quantity discrimination, and number identification subtasks explained 30% of the variance in students' oral reading fluency and reading comprehension scores. Students' skill at decoding invented words shared more moderate, yet educationally meaningful, relationships with each of the mathematics subtasks (with $R^2 = .17$ to $R^2 = .21$). Students' performance in listening comprehension shared small to moderate relationships with mathematics achievement, ranging between 12% variance explained by Level 2 of the addition subtask and 17% variance explained by Level 1 of the subtraction subtask. In contrast, students' performance on the letter sound knowledge had the weakest relationship with mathematics achievement, with a range of $R^2 = .05$ to $R^2 = .10$. Thus, the two subtasks that may be considered the most robust indicators of reading achievement—oral reading fluency and reading comprehension—shared strong relationships with the measures of mathematics achievement.

4. SSME Findings

As described in Section 2.4, the SSME gathers a wide range of information about schools. From school infrastructure and classroom resources to teaching methods and staff and student demographics, the SSME provides a holistic picture of a school ecosystem. Years of school effectiveness research have shown that understanding these factors, as well as others such as classroom management and pedagogy, student/teacher interaction, and School Principal- and MOE-support of school staff, are all linked to student performance and the combination of these school and student characteristics helps to explain why some schools are more successful than others.

4.1 Basic School Characteristics

This section combines findings from the SSME school observation, the classroom inventory, and interviews with teachers, School Principals, and students, to describe the characteristics of schools in Jordan. Findings include information about school infrastructure, staff and student characteristics, features of the classroom, and demographic information.

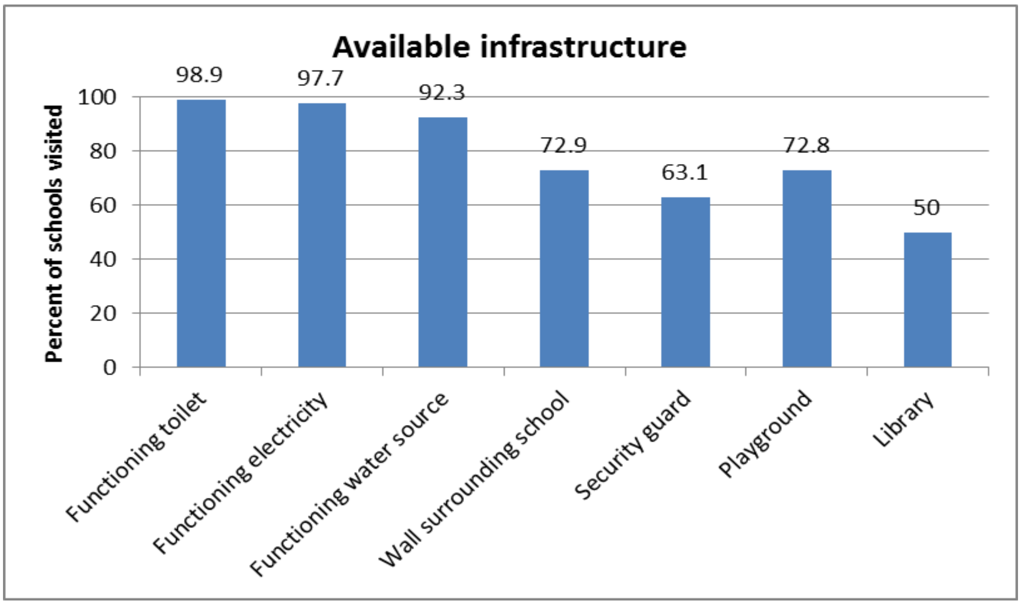
4.1.1 School Infrastructure

School infrastructure impacts the safety and comfort of students and teachers, which in turn can have an impact on attendance rates. It also serves as an indicator of resource allocations across schools and as an indicator of school management. Results from the school observation instrument revealed that Jordanian schools are well equipped and maintained. The vast majority of school buildings (90.7%) and grounds were considered clean and neat. Similarly, on the day of the assessment, 97.7% of schools had functioning electricity and 92.3% of schools had a functioning source of clean drinking water. Participants' responses indicated that nearly all (98.9%) schools had one or more functioning toilets. On average, 122 students shared one toilet—although this figure varied and was as high as 531 students per toilet in one school. Of the schools with toilets, 74.7% had at least some functioning toilets that were only for girls. The availability of clean toilets and, ideally, toilets that are only for girls, is particularly important for girls' comfort and attendance at school. Thus, the high prevalence of toilets for girls is very promising. Toilet cleanliness varied also, with 8.5% of schools having toilets that were not clean at all and another 52.2% being very clean. Most (72.8%) schools also had a playground (see ***Figure 13***). However, observers noted that 52.9% of the schools needed various types of repairs, which included repairs to windows, roofs or ceilings, perimeter walls, furniture, and playgrounds.

In addition to the building's physical structure, the space set aside for learning materials makes a difference. For example, as discussed in some detail below, having access to reading material is crucial to students learning to read. Therefore, school or in-class libraries are important. Half (50%) of schools visited had a school library.

Finally, security of teachers, administrators, and students is another very important physical feature of schools. Observers looked at the availability of key security features and also asked teachers and School Principals how they felt about safety levels at their school. Most schools (72.9%) had a complete perimeter wall surrounding the school grounds, and 63.1% of schools had a security guard. An even greater percentage of School Principals (93.3%) and teachers (91.7%) reported feeling safe at their schools, and 99.1% and 94.7% of School Principals and teachers felt that their students were safe at school. These statistics indicate that, in most cases, respondents think that security measures are adequate.

Figure 13. Percentages of schools with various types of infrastructure available



4.1.2 Teachers and School Principals

Turning to the human aspect of schools' characteristics, among the school staff, women accounted for 88.5% of School Principals. Having a woman as School Principal was strongly correlated with better performance in reading. Students in these schools could read 6.2 more words per minute than students in schools where the Principal was a man.[27]

Likewise, most (87.1%) teachers were female, but again, differences in reading scores were significant between students with a female teacher versus those students with a male teacher. Students with a female teacher were able to read an average of 5.1 more words per minute than those students with a male teacher.[28]

Regardless of the gender of the instructional staff, teaching reading and math requires an understanding of some basic pedagogic techniques. Yet in many countries, few teachers receive specific pre-service training in how to teach reading or how to teach math.[29] In Jordan, 36.1% of teachers reported receiving *pre-service* training in how to teach reading and math, while 50.4% had not received training in how to teach either of these subjects. A slightly smaller percentage (30.9%) of teachers reported receiving *in-service* training in both subjects. In ***Figure 14,*** we see the distribution of teachers by the training that they reported they had received.

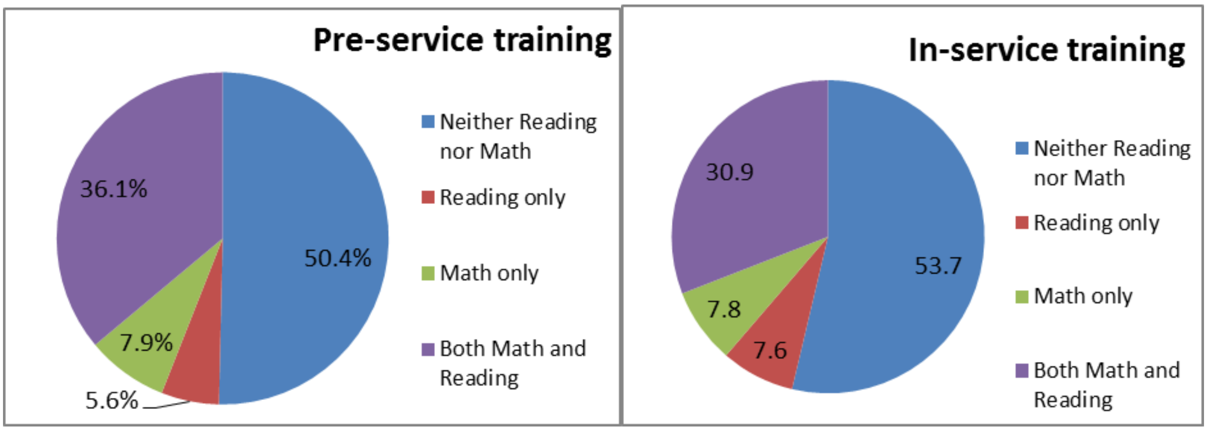
[27] p=0

[28] p=.002

[29] K. Akyeampong, J. Pryor, J. Westbrook, K. Lussier, 2011. *Teacher Preparation and Continuing Professional Development in Africa: Learning to teach early reading and mathematics.* Center of International Education: University of Sussex.

Classes where the teachers reported they had received pre-service training in how to teach reading were three times more likely to be strong-performing classes.[30] Similarly, pre-service training in math was associated with stronger classes, as measured by ORF,[31] and better reading performance.

Figure 14. Percentages of teachers reporting they had received training in how to teach reading and math



4.1.3 Enrollment, Class Size, and Class Composition

The average enrollment in the schools observed was 342 students, with the smallest school having an enrollment of 23 students and the largest having an enrollment of 1,310 students. The average observed classroom size was 23 students. The smallest class had 3 students and the largest had 49. Access to primary schools by gender is quite equitable in Jordan, with the average ratio of boys to girls being 1.04 at assessed mixed-gender schools.

4.1.4 Student Characteristics

Among students sampled, 83.4% reported having attended preschool or kindergarten prior to primary school. The findings in Jordan illustrate the importance of educational opportunities at an early age for building students' beginning literacy skills (please see ***Figure 15***). Children who attended preschool or kindergarten showed significantly stronger skills in producing the sounds associated with each letter,[32] in decoding skills,[33] in oral reading fluency,[34] and in reading and listening

[30] Classrooms that performed at or above the 70th percentile, when the topic income quartile was considered. (p= .024.) Throughout this section we note various factors related to strong-performing classrooms, summarizing them at the end.

[31] Classrooms with teachers with pre-service math training were 4.6 times more likely to be strong-performing classrooms, as measured by student performance on ORF. (p= .002.)

[32] 27.2 clspm for students with preschool or kindergarten versus 22.2 for students without. (p=.002.)

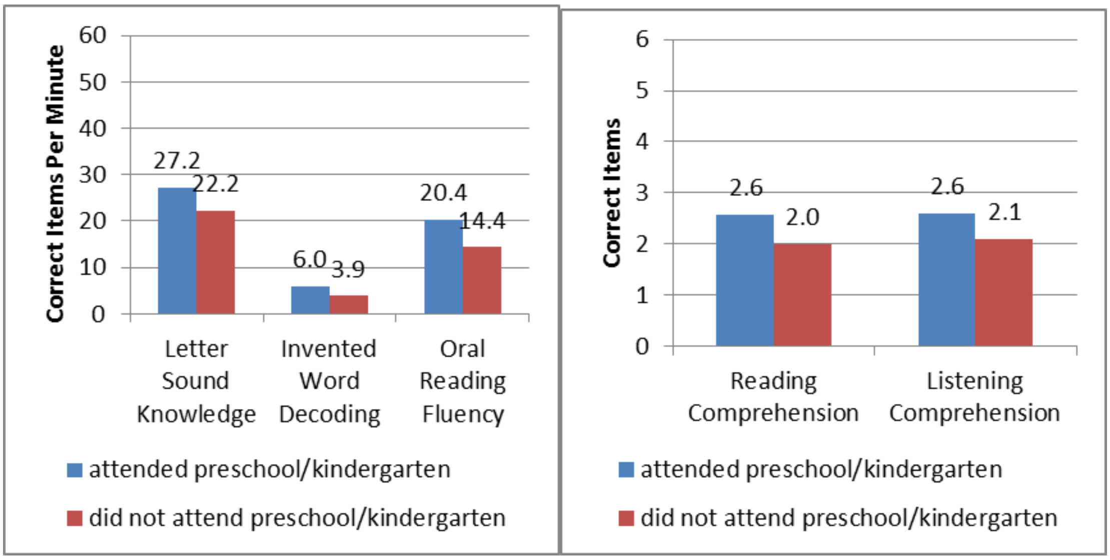
[33] 6 cnonwpm for students with preschool or kindergarten versus. 3.9 for students without. (p=.000.)

[34] 20.3 ORF for students with preschool or kindergarten versus 14.3 for students without. (p=.000.)

comprehension skills.[35] Attending preschool and kindergarten also led to stronger performance in both listening and reading comprehension. The benefits of listening comprehension are particularly important, as preschool and kindergarten provided children with early exposure to the formal MSA that is critical for schooling and for literacy development. Unlike reading, there was no correlation between attending preschool or kindergarten and math performance.

Analysts disaggregated the dataset by income quartile to investigate whether the positive correlation between preschool or kindergarten and reading was merely a reflection of wealth. In other words, the analysis sought to determine if those students attending preschool or kindergarten were from wealthier families. As is discussed below, wealth impacts student reading performance. However, this does not appear to be the case here, as differences between those who attended preschool or kindergarten and those who did not were seen within each wealth quartile.

Figure 15 Literacy achievement for students who did or did not attend preschool /kindergarten



Note: Separate scales were used for the two parts of Figure 15. The graph on the left shows student performance on the timed tasks and uses items/minute as the unit of measurement. The graph on the right shows student performance on the tasks that were untimed and had a restricted range for possible scores.

In Jordan, most teachers (95.3%) reported having no students in their class who were repeating a grade. The average repetition rate was 0.21%. Only 1.1% of students said they were repeating their grade. However, these low repetition rates should come as no surprise, given Jordan's policy of automatic grade promotion. Grade 2 students' ages ranged from 5 to 11 years old, while grade 3 students' ages ranged from 7 to 12 years old. It should be noted, however, that the incidence of under- and over-aged children appears to be uncommon in Jordan, with 95.4% of grade 2 students being either 7 or 8 years old, and 96.8% of grade 3 students being either 8 or 9 years old.

[35] 2.57 versus 2 for reading comprehension and 2.6 versus 2.09 for listening comprehension. (p=.000 for both reading and comprehension.)

Again, the policy of automatic grade promotion helps to reduce the incidence of over-aged students.

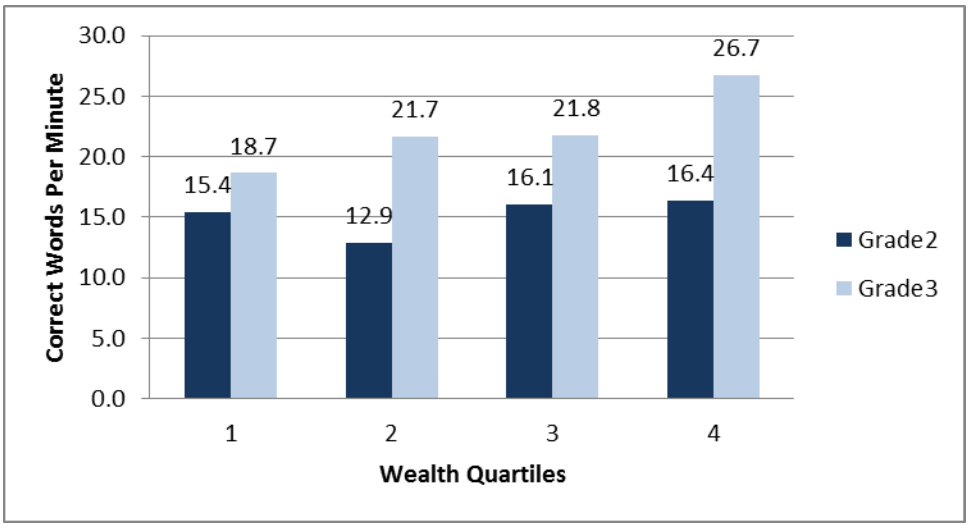
Another variable that typically correlates with performance on reading and math assessments is language of instruction versus language(s) spoken at home. Thus, students were asked what language they spoke at home. Nearly all students (99.5%) reported speaking Arabic in their homes. The remaining small percentage reported speaking French, English, or another language at home.

Nutrition can play a role in how well a student can learn. When asked whether they had eaten breakfast before arriving at school on the day of the assessment, 85.2% of students reported that they had.

Traditionally and worldwide, students' socioeconomic status is strongly correlated with their performance. As part of the SSME student interview, students were presented with a list of assets and asked which assets their family owns. This series of questions was used as a proxy for estimating the student's family's level of wealth. The range of answers was then divided into four income quartiles, with a score of 1 indicating the lowest level of wealth and a score of 4 indicating the highest. ***Figures 16 and 17***depict average student scores, by wealth quartile, on the reading passage and level 1 addition questions.

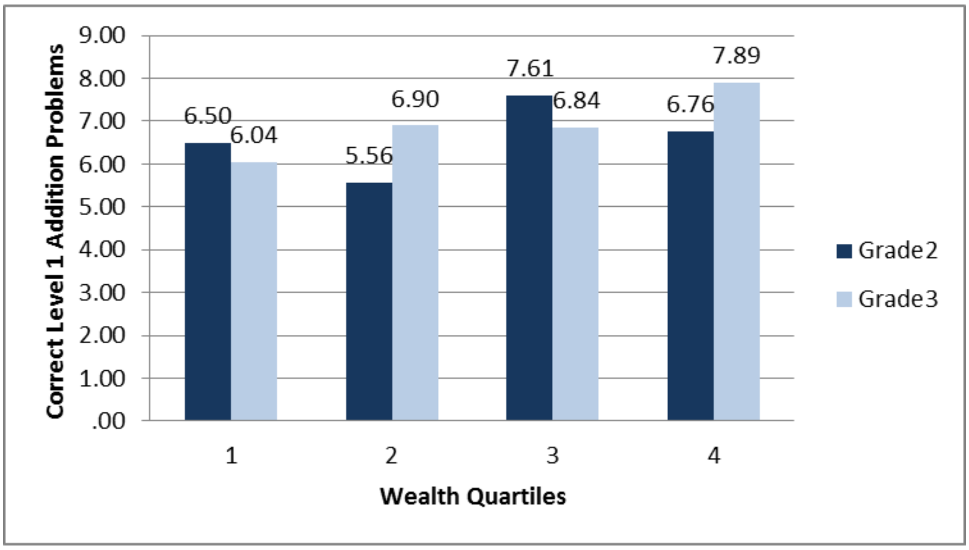
As can be seen in ***Figure 16*** just below, reading scores tend to increase as wealth levels increase. It is interesting that the difference between the wealthiest and the poorest students is not very large in grade 2, whereas the difference becomes quite marked in grade 3, indicating that the wealthiest students improve much more from one grade to the next than do the poorest students. In fact, the wealthiest students improve by more than 10 words per minute from grade 2 to grade 3, while the poorest students only improve by slightly over 3 words per minute. If it can be assumed that this pattern would continue, then by the end of primary school, the difference in performance between the wealthiest and poorest students could be quite large indeed.

Figure 16. Oral reading fluency, by wealth



The pattern for level 1 addition (see ***Figure 17*** below) is not nearly as clear, although the general trend remains positive with the wealthiest students performing better than the poorest students. As with reading, the pattern is stronger among grade 3 than grade 2 students.

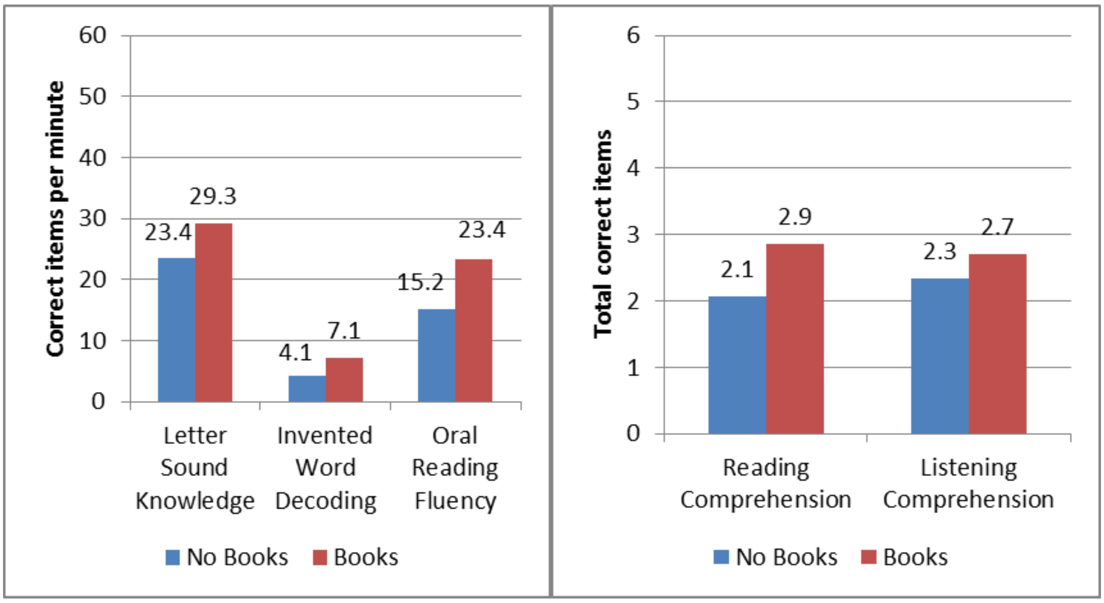
Figure 17. Correct level 1 addition scores per minute, by wealth



The relationship between student performance and wealth is not at all surprising. Families who are wealthier tend to enjoy higher parental literacy rates, have more access to books in the home, and have parents who are more involved in their children's schools. Wealthier students are also more likely to attend better resourced schools.

Whether it involves books and other reading materials at home or at school, as has been previously mentioned, having time to practice reading is essential for new readers. Observed grade 2 reading lessons indicated that nearly a third (29.6%) of the students' lesson time was spent reading out loud individually. Reading outside of school appears to be somewhat common: 50.4% of students reported having books to read at home other than their textbooks. Access to reading materials outside of school has clear implications for students' reading development, because Jordanian children who reported that they had books available at home showed greater mastery of letter-sound knowledge, more accurate decoding of invented words and real words in passages, and better comprehension of written and oral passages (see ***Figure 18***).[36]

Figure 18: Literacy achievement for students by access to books at home

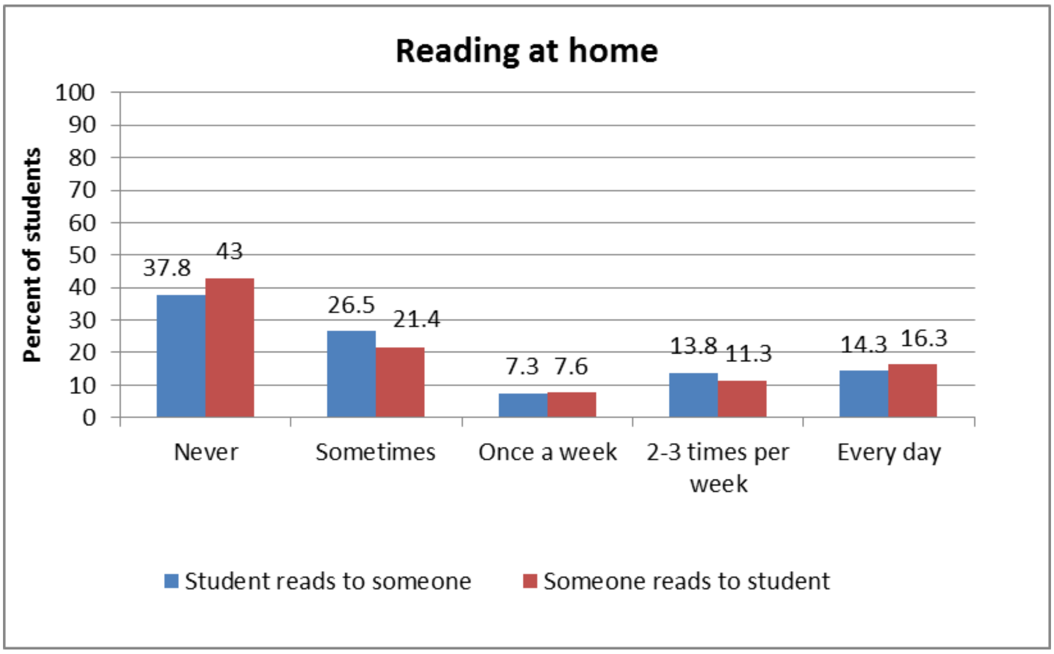


Note: Separate scales were used for the two parts of Figure 18. The graph on the left shows student performance on the timed tasks and uses items/minute as the unit of measurement. The graph on the right shows student performance on the tasks that were untimed and had a restricted range for possible scores.

In addition, students were asked how often they read to someone at home, and also how often someone at home reads to them. Responses are presented in Figure XX. Although 37.8% of students reported that they never read to someone at home, and 43% reported never being read to by a person in their home (see ***Figure 19***); nevertheless, 26.5% reported reading aloud at home "sometimes," and 14.3% reported reading at home "every day."

[36] The difference in means between students who reported having access to books at home and those who did not was statistically significant for all the EGRA performance measures. (p=.000.)

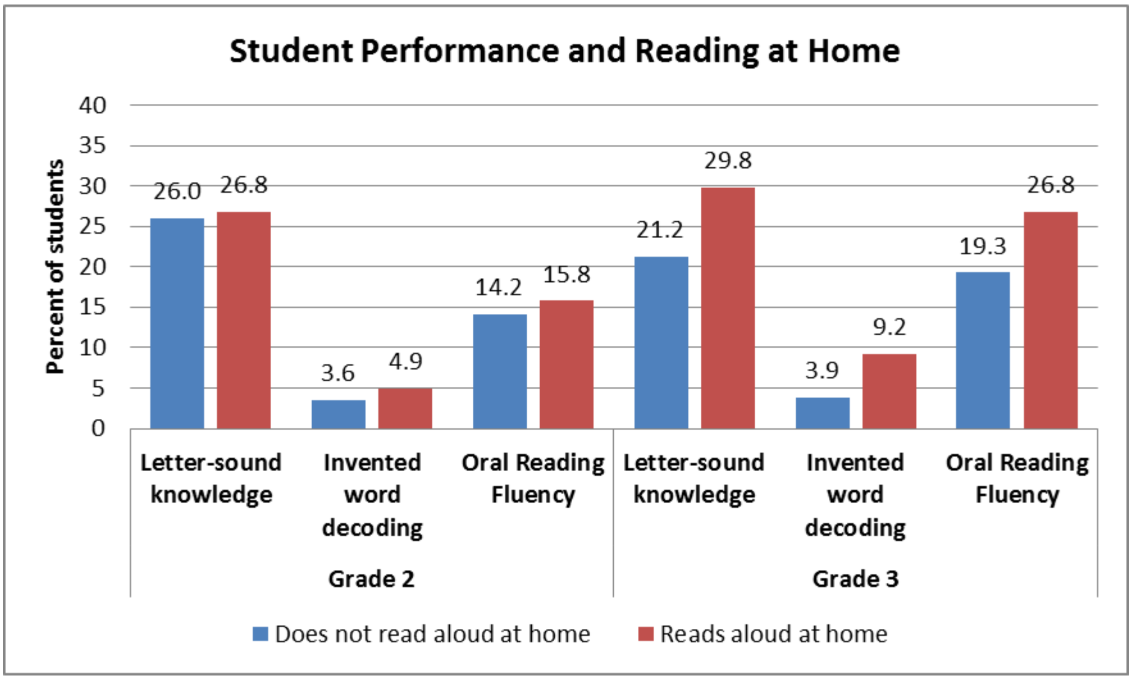
Figure 19. Frequency of reading at home



As with the presence or absence of reading materials outside of school, practicing reading at home was similarly associated with better performance on the reading assessments. For example, students who reported reading at home at all were able to correctly pronounce the sound of 4.3 more letters per minute, decode 3.2 more invented words per minute, and read on average 4 more words per minute than those who never read at home.[37] ***Figure 20*** below shows performance levels on the timed subtasks for students who reported that they did or did not read at home.

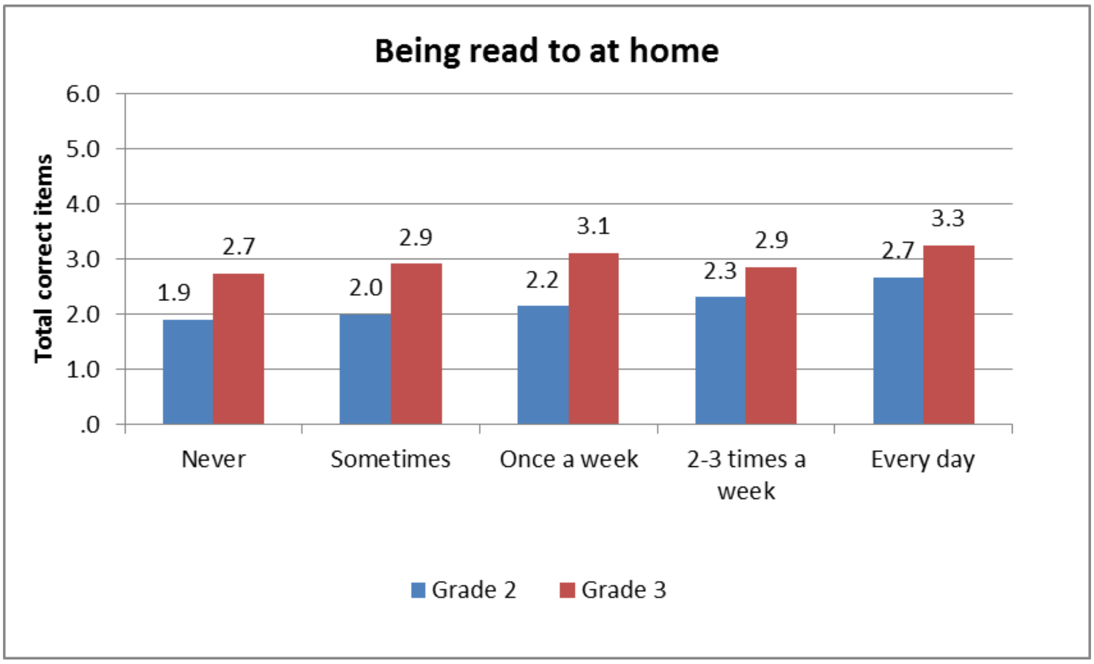
[37] The difference in reading performance among those reading at home and those not was statistically significant at the .001 level for letter sounds and ORF, and 0 for invented words.

Figure 20. Student performance and reading at home



Although these students clearly became better readers when they practiced reading outside of school, their ability to *understand* texts improved when someone at home read to them. Students who were read to outside of school were able to correctly answer more listening comprehension questions than students who were not read to. The following ***Figure 21*** depicts student performance as reported by the frequency with which someone reads to them at home.

Figure 21: Listening comprehension as a function of how frequently someone reads to students at home



4.1.5 Parental and Community Support (Parents and Parent-Teacher Associations [PTAs])

As with wealth, parental involvement is traditionally closely correlated with student success at school. Parental involvement can include simply encouraging children to attend school on time and to complete their homework. Other parents may review their children's schoolwork, encourage their children to do well, and read to their children or ask their children to practice reading aloud at home. More ambitious parents may be involved in the schools' parent-teacher organization. Unfortunately, in many countries, parental involvement is lacking. In Jordan, just under half (49.2%) of the teachers interviewed reported that they were satisfied with parents' involvement in their children's schoolwork. Slightly more (55.8%) School Principals reported being satisfied with the level of parents' involvement in their children's schoolwork. Teacher satisfaction with parental involvement was significantly and positively correlated with student performance on the reading passage (r=3.4 p=.012[38]).

One specific example of parental involvement that is mentioned is parental review of their children's schoolwork. When teachers were asked if parents review their children's schoolwork, 47.6% of the teachers who responded said "some," 38.2% said "most," and 11.4% said "all." Teachers who responded that "most" of their students' parents reviewed their children's schoolwork were 26.4 times more likely to be teaching in a strong-performing class[39] than teachers who reported that none of their students' parents reviewed their children's work. The small number of teachers who indicated that "all" their students' parents reviewed their children's schoolwork were 71.5 times more likely to be teaching in a strong classroom than teachers who reported that none of the parents reviewed their children's work. Parents who are aware of their students' performance are generally more involved than those who are not informed. Almost all the students (96.2%) said that their parents knew about their tests. Students, who reported that their parents knew about a recent good grade, tended to perform better on all of the EGRA subtasks when compared to students whose parents were unaware of their good grade. For example, the mean ORF for students with informed parents was 19.8 words per minute, whereas the rate for students of uninformed parents was only 11.4 words per minute.[40] The average performance level was even higher among students who reported that their parents rewarded them for their good grades, with those students who received a hug or a kiss or a treat being those who received the higher scores.

Participation in their Parent-Teacher Association (PTA) is another example of parental involvement. Of the schools sampled, 98.3% had a PTA. When asked about how frequently the PTA met during the past year, 63.4% of School Principals responded with "every 2-3 months," 13.4% said "every month," and 9.3% said "once a year." School Principal satisfaction with the level of support provided by the PTA

[38] For the purposes of this report, only correlations with a p-value of .05 or less are considered statistically significant.

[39] As measured by student performance on the invented words subtask of EGRA. (p=.01.)

[40] p=.001.

was split, with 47.3% of School Principals reporting that they were satisfied, and 52.7% reporting that they were unsatisfied.

4.1.6 Availability and Use of Pedagogic Materials

Pedagogic materials are essential for both students and teachers. Teachers need textbooks and reference materials to help them properly follow the MOE's curriculum. Teaching instruments such as blackboards, chalk, writing materials, and student registers are fundamental teaching tools. Similarly, students need to have access to textbooks, reading books, exercise books or slates, math manipulatives,[41] and writing utensils.

The availability of resources for Jordanian students is high. Almost all students were observed to have an Arabic language textbook (99.3%) and math textbook (97.7%). Similarly, assessors found that on average, 97.3% of students in sampled classrooms possessed a language exercise book, and 99.2% of students had a writing utensil during the day of the visit.

On average, teachers were also well equipped with basic teaching tools, having at their disposal a blackboard/whiteboard (96.7%), chalk/markers (97.7%), and pen or pencil (98.3%) in the classroom. Reference materials were also prevalent: 93.6% of teachers had a language reference book, and 98.2% had a math reference book in the classroom.

4.1.7 Reading Materials Available in School

Having ready access to a variety of reading materials (i.e., in addition to books) is essential for emerging readers. Without this access, students miss opportunities to develop and practice reading skills, expand their vocabulary, and strengthen their understanding of the language. Reading materials can range from magazines and booklets of short stories in classrooms to readers and books at home. Availability of reading materials in Jordanian schools was found to be moderate. As previously mentioned, half of the schools in Jordan reported having a library (51.3%). In the schools that had libraries, almost all (99.3%) School Principals said that students had

[41] "Manipulatives for counting" refers to the use of small objects, such as stones or sticks, that teachers may use with students to help them master rational counting and/or to understand and solve simple addition or subtraction problems.

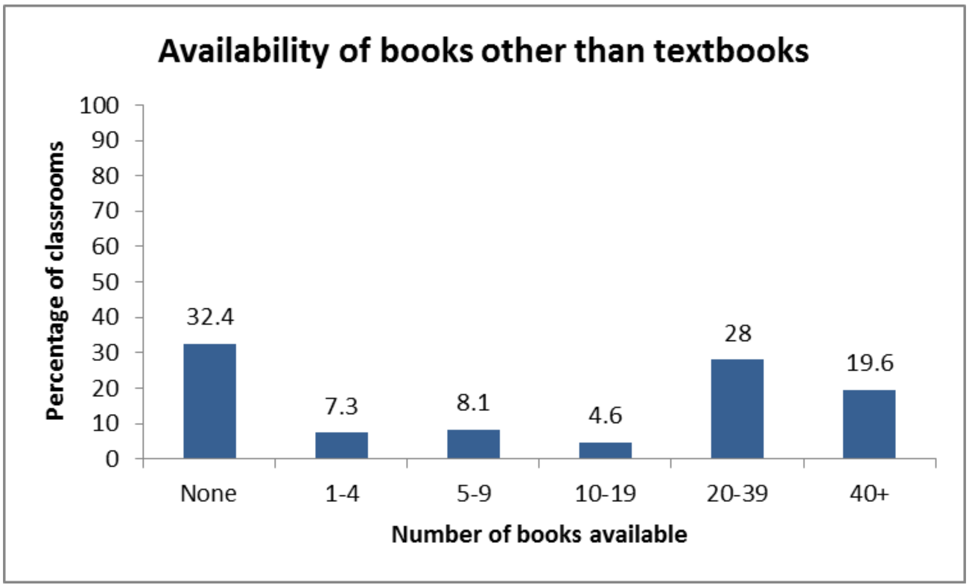
access to books from the library. School Principals reported that library books could be read in the library, in the classroom, and/or at the children's home. Almost all School Principals stated that students could access library books on a frequent basis (please see ***Table 17***).

Table 17: How often students can access school library, as reported by School Principals

Frequency	Percentage
Never	2.1%
Monthly	8.1%
Weekly	37.1%
Daily	52.8%

For reading materials in the classroom, it was reported that 67.6% of classrooms had some reading or non-textbook materials available for students. However, the number of books available varied greatly from classroom to classroom, ranging from 0 to 40 or more books per class, with over 32.4% of the observed classrooms having no books other than textbooks. Classrooms that had any reading materials/non-textbooks were 4.3 times more likely to be strong-performing classrooms.[42] ***Figure 22*** below indicates the distribution of classrooms by the availability of reading books. The positive correlation between availability of non-text book books in the classroom and ORF held even when student wealth was taken into consideration indicating that this result is not simply a reflection of greater wealth levels.

Figure 22. Percentage of classrooms by availability of reading books



[42] As measured by class ranking, based on student oral reading fluency rates. (p=.002.)

4.2 Instructional Context

In this section results are presented from observations of reading and math lessons as well as interviews with teachers and School Principals, in order to describe the various instructional factors that most likely are having an impact on student learning outcomes.

4.2.1 Use of Reading Materials in the Classroom[43]

Table 18 presents the materials used during classroom observations of reading lessons. Clearly, the language textbook was the most frequently used resource, followed by the blackboard. Other materials, such as other books (0.6%) and posters (1.0%) were almost never used.

Table 18. Percentage of reading lesson time spent by types of reading instructional materials used

Materials Used	%
Blackboard	28.1
Textbook	57.1
Other book	0.6
Worksheets	1.6
Flash cards	2.7
Posters	1.0
Pocket boards	0.5
Magnetic pieces	0.0
Student notebooks	4.2
Technology/computer	0.5
Other	3.7

Note: Classroom observers were permitted to select only one item every 3 minutes during the lesson. Although the proportions remain accurate, the percentages presented here were normalized for ease of presentation, because the total observation times did not add up to 100%. The original total was 99.4%.

4.2.2 Lesson Content

Classroom observers were asked to note the content of the lessons taught. This information helps researchers to identify how closely the curriculum is being followed and whether or not the content matches appropriately with students' understanding of the subject matter. During reading lessons, content was focused primarily on reading comprehension activities (46.6 %) and students reading texts (20.3%; see ***Table 19*** below). Such pedagogical practices foster better oral and reading comprehension and favor fluent oral reading skills. However, as with mastery of any skill, basic or foundational skills must be mastered before any students can master more advanced skills, such as reading fluency and comprehension. Strong reading comprehension is

[43] Note that only a small fraction of responses were recorded for the use of mathematics materials observed; therefore, the results are not reported here.

not possible unless a student has first mastered reading fluency. Reading fluency, in turn, requires a strong mastery of letter sounds and the ability to assemble letter sounds to form words. As mentioned previously, the 17.5% of students who responded correctly to 5 of the 6 reading comprehension questions on the EGRA were able to read at a pace of 45.1 correct words per minute, which was more than twice as many as the overall average reading rate of 19.4 words per minute. Similarly, these students were able to correctly read more than twice as many isolated invented words (12.7 versus 5.7) per minute. These students were also able to correctly read more letters per minute, although the difference was not nearly as prominent (33.2 versus 26.4).

To ensure that more students are able to read fluently and with comprehension, current classroom activities should be complemented with other pedagogical practices that are designed to improve foundational skills, such as decoding and word-recognition strategies among students who are not yet fluent. Currently, reading lessons rarely focus on sounds (0.5%), letter-sound correspondence (1.0%), and isolated word reading (4.8 %). This finding is not surprising, given that the Jordanian curriculum focuses on these skills only in grade 1 and then expects students in grade 2 to be able to read connected texts. These observations, combined with the EGRA scores described above, suggest that teachers may be adhering strictly to the curriculum, steadily progressing towards its completion, regardless of their students' understanding of the material covered.

In addition to the quantitative observation of all sampled grade 2 classrooms, the previously described Quality of Instruction Scale (QIS) was conducted in five sampled classrooms. Although not statistically significant, this qualitative data can provide additional insights into what is happening in the classrooms. During the qualitative observation, it was noted that some of the teachers were making errors when conducting guided reading lessons. This observation tends to further bolster the argument mentioned previously, that pre-service training designed specifically to teach reading acquisition could help to ensure greater teaching effectiveness.

Table 19. Percentage of reading lesson time spent, by type of activity

Instructional Content	%
Sounds without print	0.5
Letters/sounds	1.0
Reading a letter inside a word	0.7
Reading syllables inside a word	1.5
Reading isolated words	4.8
Reading sentences	7.7
Vocabulary	5.5
Dictation	5.4
Reading texts	20.3
Reading comprehension	46.6
Writing–creating texts	2.6
Other	3.4

Note: Classroom observers were permitted to select only one item every 3 minutes during the lesson. Although the proportions remain accurate, the percentages presented here were normalized for ease of presentation, because the total observation times did not add up to 100%. The original total was 98.8%.

Table 20 below summarizes the percentage of observed mathematics lesson time, by subject content. With 58% of the time spent on multiplication and another 26% of time devoted to division, it may appear that a disproportionate amount of focus is on these two subjects. However, this content focus aligns with the Jordanian period allocation plan (see ***Appendix A***), which has teachers focusing on multiplication and division at the time of the school year when the EGMA assessment was conducted. It should be noted that the period allocation plan also includes substantial focus on addition and subtraction during other times of the year, with grade 2 students working on 3- and 4-digit number problems and grade 3 students working with 5-digit numbers. However, on the 2-digit EGMA problems, students scored an overall average of less than 54% correct for addition and less than 34% correct for subtraction, out of items attempted. It is clear that children are performing well below curricular expectations for addition and subtraction with 2-digit numbers, and this is the case even though a significant amount of the school year (almost 40%) is being devoted to these topics in a much higher number range. Given that students have not mastered these topics and given that teachers are nonetheless focusing on multiplication and division, two possible conclusions may be considered. First, as with the observation of the reading lesson, the math lesson observations may indicate that the curriculum is being followed rigidly and is not being adapted to suit students' specific needs. In other words, the lesson content is shifting based on the curricular plan and is not based on student progression. Second, despite the amount of lesson time dedicated to addition and subtraction, this instruction is not proving effective. An analysis of the Jordanian schoolwork/textbooks for mathematics suggests that addition and subtraction are being addressed in a highly mechanical (procedural) manner, with not enough attention to the development of understanding and the ability of children to apply their understanding to solve unfamiliar problems. It is also worth reflecting on whether the number ranges for addition in grade 2 and grade 3 may be too ambitious. Much may be gained in spending more time in developing an understanding of the operations in a lower number range than working in a higher number range without having first developed the necessary understanding.

Table 20. Percentage of observed math lesson time, by lesson content

Instructional Content	%
Rote counting	0.4
Rational counting	0.1
Reading numbers	0.8
Writing numbers	0.5
Comparing numbers	0.1
Addition – 1-digit	0.8
Addition – 2 or more digits	1.3
Subtraction – 1-digit	1.5
Subtraction – 2 or more digits	3.6
Multiplication	58.8
Division	26.0
Fractions	0.0
Measurement	0.0
Representation of number	0.7
Patterns	0.1
Word problems	4.3
Working with data	0.0
Geometry	0.0
Other or don't know	0.9

Note: Classroom observers were permitted to select only one item every three minutes during the lesson. Although the proportions remain accurate, the percentages presented here were normalized for ease of presentation, because the total observation times did not add up to 100%. The original total was 108.1%.

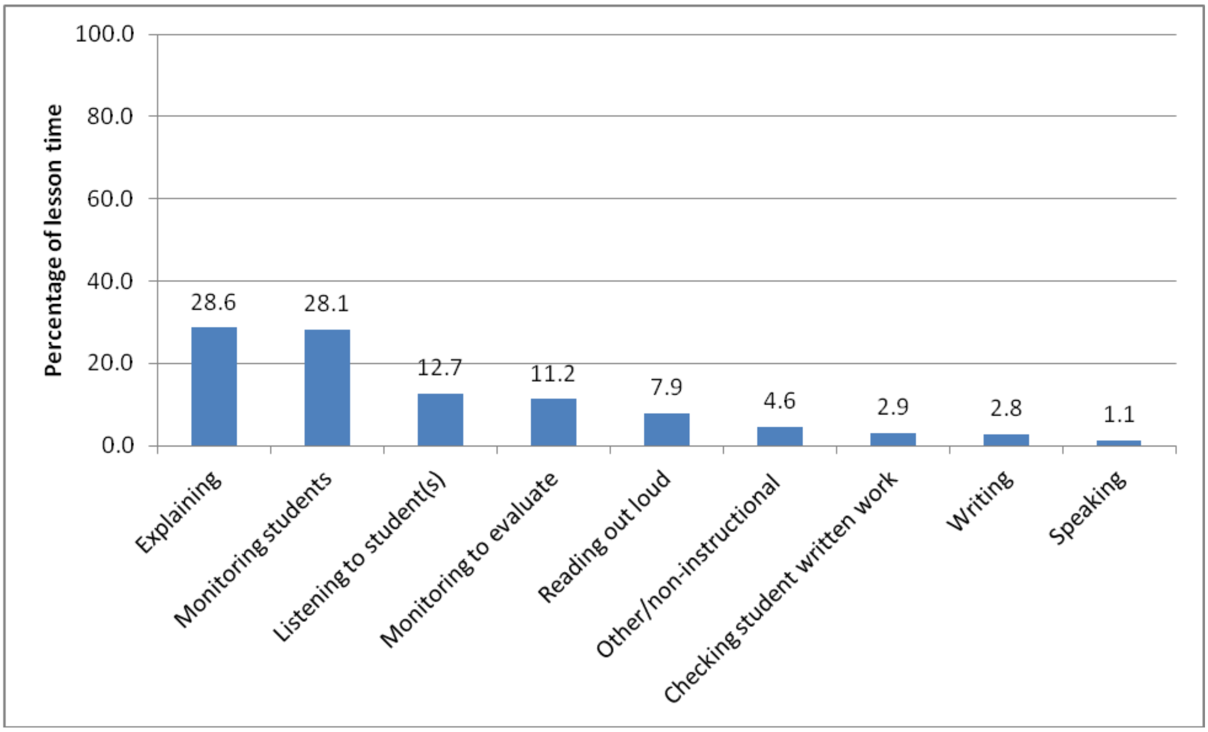
4.2.3 Teacher Action During Lessons

In addition to noting the materials used and instructional content of lessons, classroom observers also gathered data on teacher action during math and reading lessons in grade 2.

Observations of teacher action during reading lessons revealed that on average, 28.6% of lesson time was spent explaining concepts to students and 28.1% of lesson time was spent monitoring students (see ***Figure 23)***. In math lessons, teachers were observed spending the largest portion of time listening to students (40.3%) and 18.2% of the time repeating or reciting math concepts (see ***Figure 24)***. It is encouraging that the majority of time during the observed grade 2 reading and math lessons was focused on learning. On average, during 5.6% of the reading lesson and 5.2% of the math lesson, the teacher was not focused on the students. On average, teachers spent 4.5% of the reading lesson on non-instructional activities. At virtually no time were teachers observed to be outside of the classroom during the observed lesson.[44]

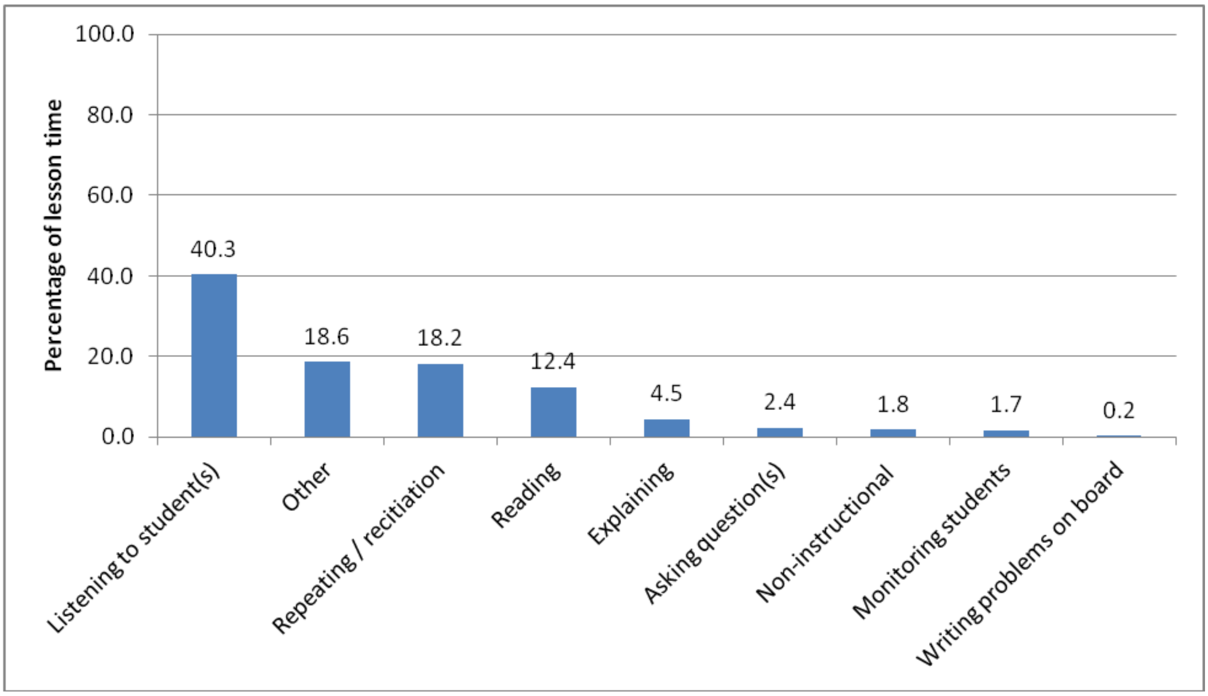
[44] Teachers were observed to be outside of the class during the reading lesson 0.8% of the time and during the math lesson only 0.5% of the time.

Figure 23 Teacher action: Reading lesson



Note: Classroom observers were permitted to select only one item every 3 minutes during the lesson. Although the proportions remain accurate, the percentages presented here were normalized for ease of presentation, because the total observation times did not add up to 100%. The original total was 98.8%.

Figure 24. Teacher action: Mathematics lesson

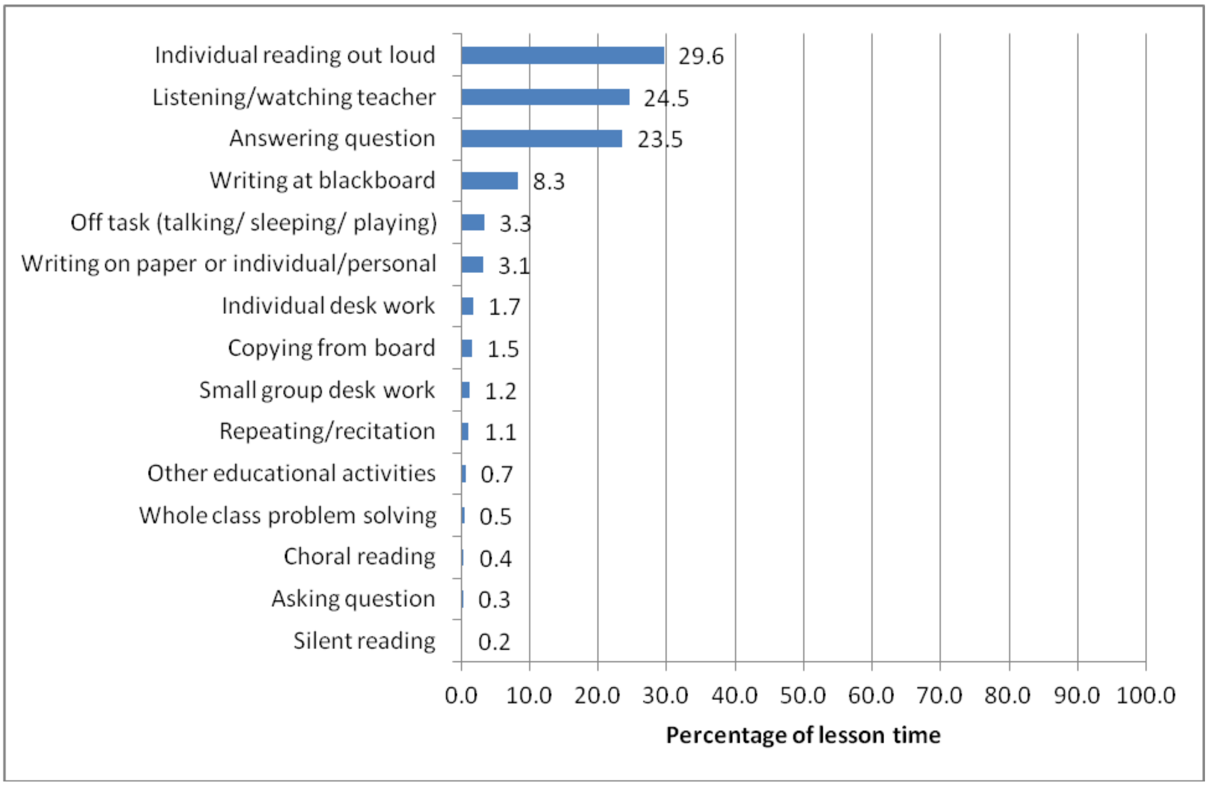


Note: Classroom observers were permitted to select only one item every 3 minutes during the lesson. Although the proportions remain accurate, the percentages presented here were normalized for ease of presentation, because the total observation times did not add up to 100%. The original total was 110.1%.

4.2.4 Student Action

Observations of student action during reading lessons showed that the most common activity, comprising 29.6% of the lesson time, was reading out loud by individual students. This was followed closely by listening to/watching the teacher (24.5 %) and answering a question (23.5 %) (see ***Figure 25).*** Students spent very little time reading silently or writing.

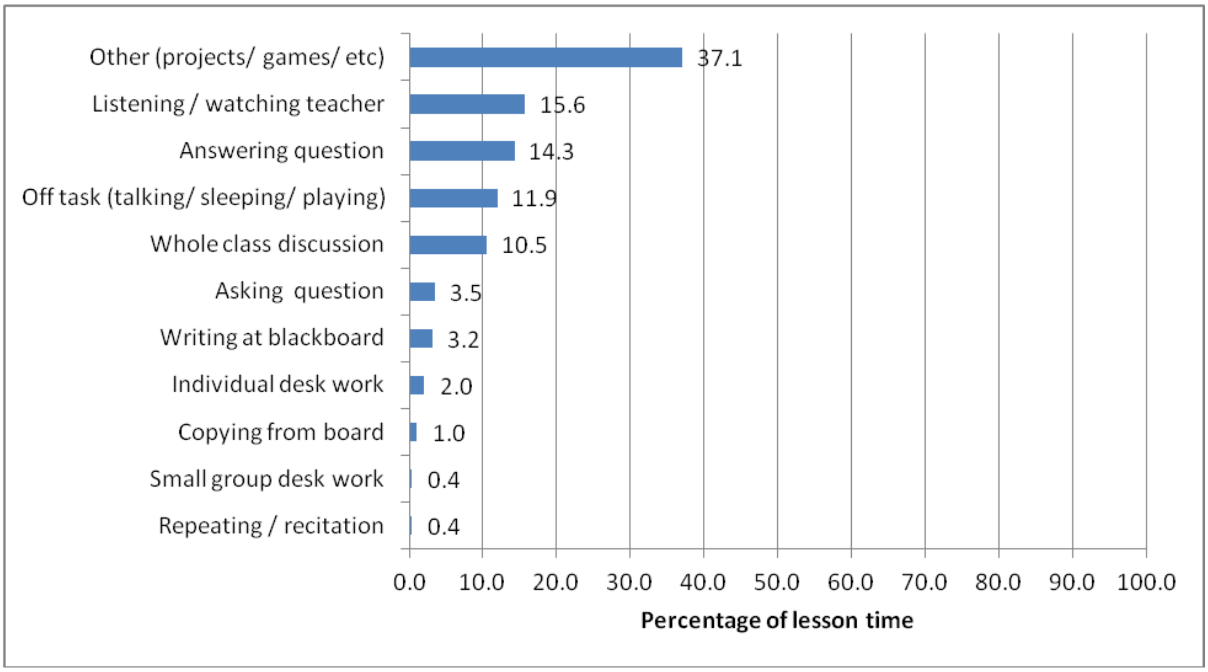
Figure 25. Student action: Reading lesson



Note: Classroom observers were permitted to select only one item every 3 minutes during the lesson. Although the proportions remain accurate, the percentages presented here were normalized for ease of presentation, because the total observation times did not add up to 100%. The original total was 99.1%.

Students engaged in a variety of activities during math lessons including listening to/watching the teacher (15.6 %), answering questions (14.3 %), and engaging in whole class discussions (10.5 %). In a comparatively large percentage of time (11.9 %), students were observed to be off task (see ***Figure 26)***.

Figure 26. Student action: Mathematics lesson



Note: Classroom observers were permitted to select only one item every 3 minutes during the lesson. Although the proportions remain accurate, the percentages presented here were normalized for ease of presentation, because the total observation times did not add up to 100%. The original total was 148.3%.

4.2.5 Teacher – Student Interaction

How teachers interact with students is an important component of the classroom learning environment. Teacher feedback facilitates students' ongoing improvement and better ensures that they will achieve curricular goals. Teachers' corrective feedback helps students to correct errors, clarify misconceptions, and learn more effectively. Assessment teams' evaluation of teacher-student interaction includes marks and comments written into exercise books, responses to students' homework and class work, responses to weaker students, and responses to negative student behavior, such as bullying.

The majority of teachers observed did provide students with feedback in their exercise books, based on student reports and observation. Most (92.9%) books examined were found to have marks or comments written by the teacher. Those students whose exercise books had comments on many or most of the pages read, on average, 4.6 more words per minute than those students whose books had no marks.[45]

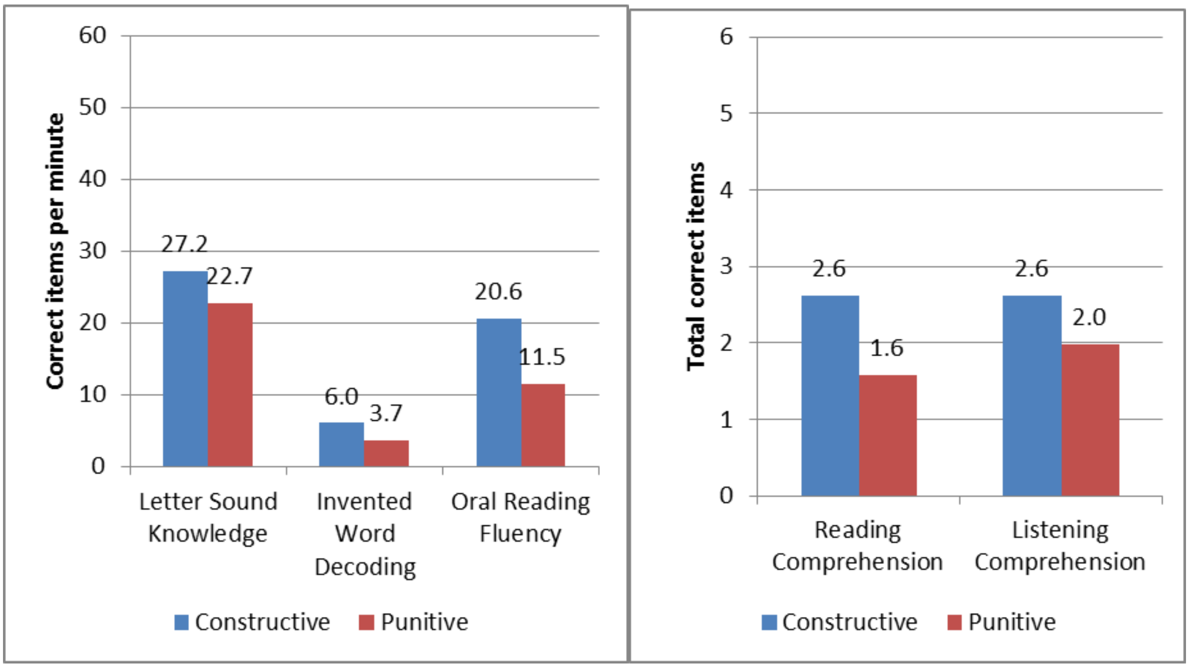
Student questions occupied very little time (0.3% in reading and 3.5% in math) (see ***Figures 25and 26)*** during the lessons, which may indicate reluctance on the part of the students to ask questions.46 Students reported that when they are unable to answer a question correctly during a lesson, their teachers usually ask another student (59.8%), explain/ask the question again (14.5%), or encourage them to try again

[45] This difference in means was statistically significant with p=.023.

[46] On the importance of creating positive learning environments where students feel unafraid to ask questions, see F. Pajares, 1996, "Current Directions in Self-efficacy Research," In M. Maehr & P. R. Pintrich (Eds.). *Advances in motivation and achievement*, 10, (pp. 1-49). Greenwich, CT: JAI Press.

(9.5%). In a few cases, students reported being hit by their teacher (4.2%), scolded (1.8%), or sent to stand in the corner of the classroom (1.3%). Overall, the majority of students (92.1%) reported that their teachers responded constructively to incorrect questions, while 7.9% reported punitive responses from their teachers. Similarly, the quality observer noted that in four out of the five classes where the QIS was applied, when a student responded incorrectly, teachers responded constructively by asking a clarifying question, or cueing the student, or breaking down the task into smaller steps, as appropriate. Classrooms where teachers used constructive versus punitive responses were much more likely to be classified as strong-performing classrooms. Figure 27 below highlights the relationship between the type of teacher response to student errors and student performance.47

Figure 27: Literacy achievement as a function of teachers' response to student errors



Students were also asked about what teachers did when students performed well on a test. As with the feedback in the exercise books, the majority of students reported receiving positive feedback from their teachers, with 79% receiving praise from their teachers and another 13.4% receiving a small prize such as stickers or a pencil. Only 6 % of students reported that their teachers did nothing when students had performed well on a test. Students who reported receiving praise or a small prize performed better across almost all of the EGRA and EGMA subtasks.[48] This general pattern

[47] The difference in means was statistically significant for all of these EGRA performance variables. (p=.000 or p=.001).

[48] For example, students who received praise were able to complete almost three more level 1 subtraction problems per minute (r= 2.7, p=.002), and students who reported receiving a small prize were able to complete five more level 1 subtraction problems (r=5.3 and p=0) than students who reported that their teachers did nothing when they received a good grade.

holds true for all of the wealth quartile groups. Finally, 97.3% of students said that their teachers checked their homework. Although checking homework does not appear to be correlated with student performance (perhaps because almost all students receive this feedback), this high percentage further reinforces the impression that teachers are doing a very good job of providing routine feedback to their students.

Teacher-student interaction also includes the ways that teachers respond to and manage challenges in their classrooms. Teachers were asked how they responded to weaker students in their classes, as well as how they dealt with bullies***. Table 21*** below indicates teachers' responses to how they treat weaker students. By far, the most common solution proposed by teachers was to concentrate their efforts more on weaker students (63.1%). Other common responses included "encouraging students" (33.2%), "communicating more frequently with parents" (18.8%), "supporting weaker students with stronger students" (17%), and "moving weaker students to the education resource room" (15%). A small fraction of teachers said that they did not treat weaker students any differently in their class. Interestingly, the only response that was consistently—albeit negatively—correlated with student performance was this last mentioned response. That is, students whose teachers said that they did not treat weaker students differently tended to perform worse across both EGRA and EGMA subtasks.[49]

Table 21. How teachers respond to weaker students

How do you teach weaker students in your class?	%
Do not treat them differently	6.9
Concentrate on weaker student	63.1
Provide daily tests	14.0
Encourage student	33.2
Communicate with parents more frequently	18.8
Support the weaker student with a stronger student	17.0
Collaborate with other teachers	2.3
Move to education resources room	15.4
Other	5.9

Note that these percentages will not add to 100 as multiple responses were permitted.

A similar pattern was observed when teachers were asked about how they dealt with bullies. The most common response from teachers (56.5%) was that they talk to bullies to try to give them advice. Another common response (47.1%) was to discipline bullies. Some teachers said they respond to bullies by giving them more assignments/homework (22.2%) or communicating with their parents (18.1%). As

[49] For example, on average, these students responded to 4.5 fewer correct addition level 1 problems correctly in one minute (p=0).

with weaker students, a very small fraction of teachers said that they ignore bullies (4.4%), and an even smaller percentage said that they use corporal punishment when disciplining bullies (2.2%) (***Table 22).*** Both of these uncommon responses were negatively correlated with student performance on EGRA and EGMA subtasks. Students whose teachers said that they ignore bullies read on average 6.8 fewer words per minute than students whose teachers responded to bullies in other ways. Even more striking, students whose teachers said that they use corporal punishment read on average almost 11 (10.9) fewer words per minute than other students.[50] On a more positive note, the most common response given by teachers—that they talk to bullies and try to give advice—was positively (although weakly) correlated with many of the EGRA and EGMA subtasks,[51] and classes where the teacher reported talking to bullies were 2.4 times more likely to be classified as a strong-performing class.[52]

Table 22. How teachers respond to bullies

How do you handle bullying in your class	%
Do nothing / ignore	4.4
Communicate to parents	18.1
Talk to bully and try to give advice	56.5
Give bully more assignments / homework	22.2
Discipline bully	47.1
Use corporal punishment	2.0
Other	4.8

Note that these percentages will not add to 100 as multiple responses were permitted

Data is not sufficient to measure how effective these teacher approaches are in helping weak students to learn, nor is it possible to measure how effective these approaches are in reducing the incidence of bullying in class. However, these teacher responses may indicate that teachers who work directly to address these bullying issues in a constructive and non-punitive manner tend to have more successful students than teachers who ignore the issue or address them in a punitive manner.

In the same way that teachers' responses to students are important for learning outcomes, teachers themselves can benefit from pedagogic feedback, oversight, and responses to challenges or questions they may have. This feedback can come from a variety of sources, including School Principals, other school faculty, or MOE staff. The extent to which School Principals are or are not involved with the day-to-day

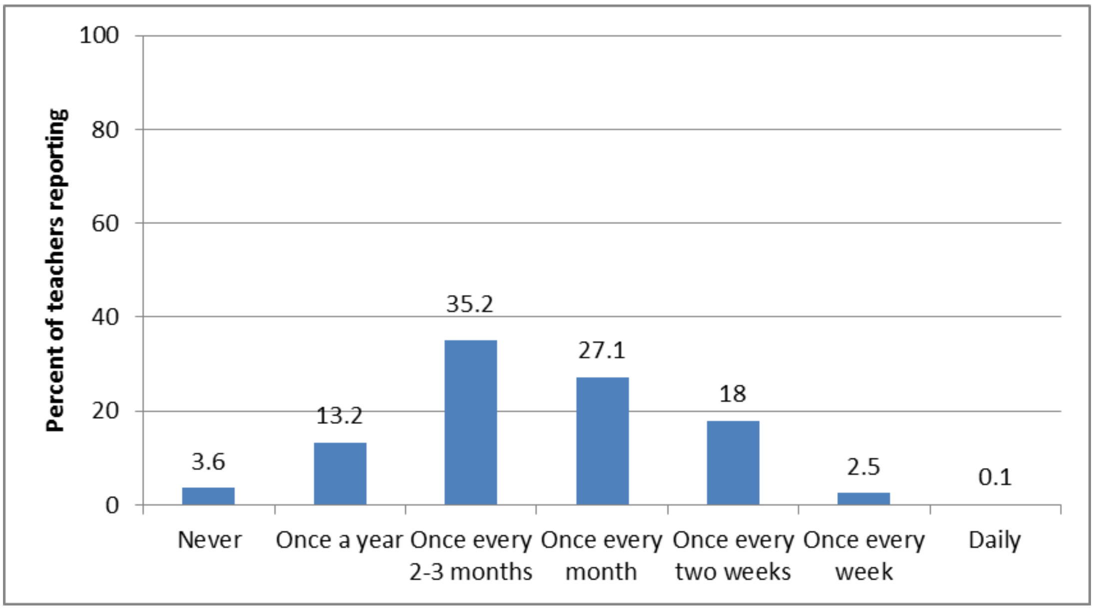
[50] p=.004 for teachers stating that they ignored bullies, and p=0 for teachers who used corporal punishment. Note that the sample size for these responses was very low, with only 7 responses for use of corporal punishment and 9 responses for ignoring bullies.

[51] Students were able to answer 1.5 more level 1 addition problems per minute if their teachers reported talking to bullies. (p=.003.)

[52] As measured by classroom performance on the number of correct invented words per minute (cnonwpm).

work of their teaching staff can be indicative of the management and oversight capabilities of School Principals, the level of accountability and support felt by teachers, and the working atmosphere for staff. When researchers asked teachers how often the School Principal observed their class, only 3.6% of teachers reported never being visited by the School Principal, 13.2% reported yearly visits, 35.2% reported visits every two to three months, and 27.1% reported being visited every month (see ***Figure 28***). Students whose teachers reported being observed by the School Principal every month or every two to three months performed better on the oral reading fluency subtask.[53]

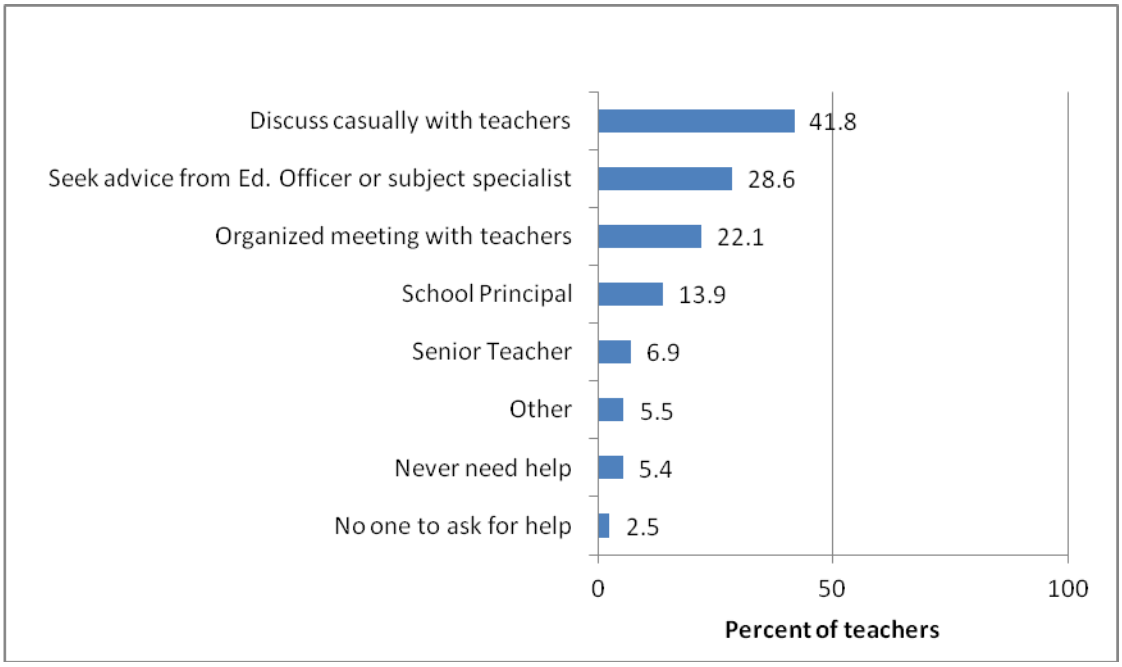
Figure 28. Frequency of School Principal visits to the classroom, as reported by teachers



Additionally, teachers were also asked whom they consult when they needed help. Most teachers (41.8%) reported that when they need assistance, they discuss the problem casually with their fellow teachers, and 28.6% said they seek advice from an Education Officer or subject specialist (see ***Figure 29***).

[53] Students whose teachers reported being observed by the Head Teacher every month were able to read 6.6 more words per minute (p=.009), and if the teacher was observed every two to three months, students could read 5.4 more words per minute (p=.008) than students whose teachers were never visited.

Figure 29. Whom teachers consult for help



Finally, teachers and School Principals were asked about MOE support. A large proportion (41.9%) of teachers said they had never been visited by an Education Supervisor in their classroom, while 24.7% reported a yearly visit, and 26.4% said they had been visited once each semester. A few teachers (4.7%) said they were visited every two to three months, and 1.3% reported being visited every month. Teachers who said an Education Officer visited their classroom every two to three months were 5.6 times more likely to teach in a strong-performing classroom.[54] When School Principals were asked if the MOE is responsive to requests for support, 34.1% responded "never," 48.8% said "sometimes," and 14.5% said "always." Students in schools where the School Principal responded that the MOE is sometimes or always responsive performed better on the ORF subtask, reading on average 5.7 more words per minute than students in schools where the MOE was never responsive.[55] Additionally, classrooms in schools where the School Principal reported the MOE being always responsive were seven times more likely to be classified as strong-performing.[56]

The next section addresses more explicit ways that School Principals and teachers reported measuring student performance during the school year.

4.2.6 Student Evaluation Approaches

Evaluation of students by both teachers and School Principals is an extremely important component of effective teaching because it provides crucial insight into how students are progressing in their understanding of the lesson material throughout the school year. School Principals reported applying a number of direct and indirect

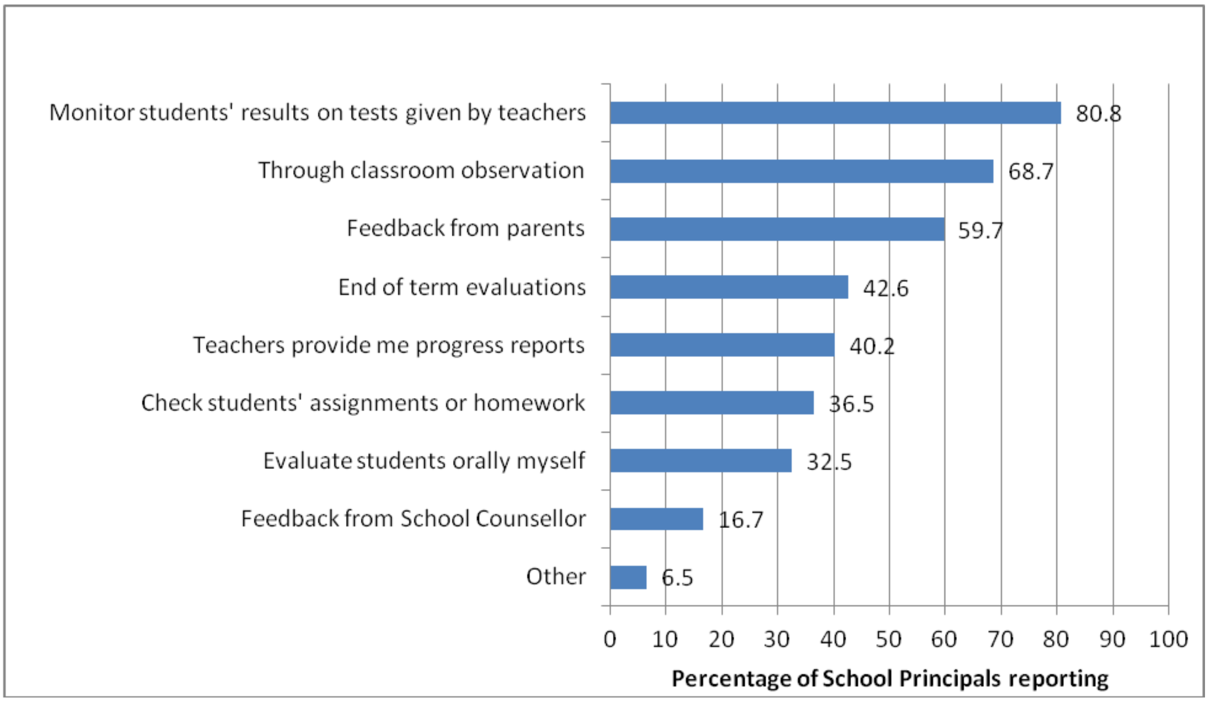
[54] Based on student performance on the oral reading fluency subtask of EGRA, (p=.008.)

[55] p=0 for "sometimes" and p=.009 for "always."

[56] Based on student performance on the oral reading fluency subtask of EGRA, (p=.003.)

approaches to evaluate how students were doing academically (see ***Figure 30***). Approaches included classroom observation, oral evaluation of students, review of student work, and student assessments. Direct observation seemed to be associated with stronger student performance. In fact, classes were 3.6 times more likely to be classified as strong-performing classrooms if School Principals reported relying on their own oral evaluation of students to measure student performance.[57] This approach could indicate a School Principal who is more actively engaged in what takes place in the school's classrooms.

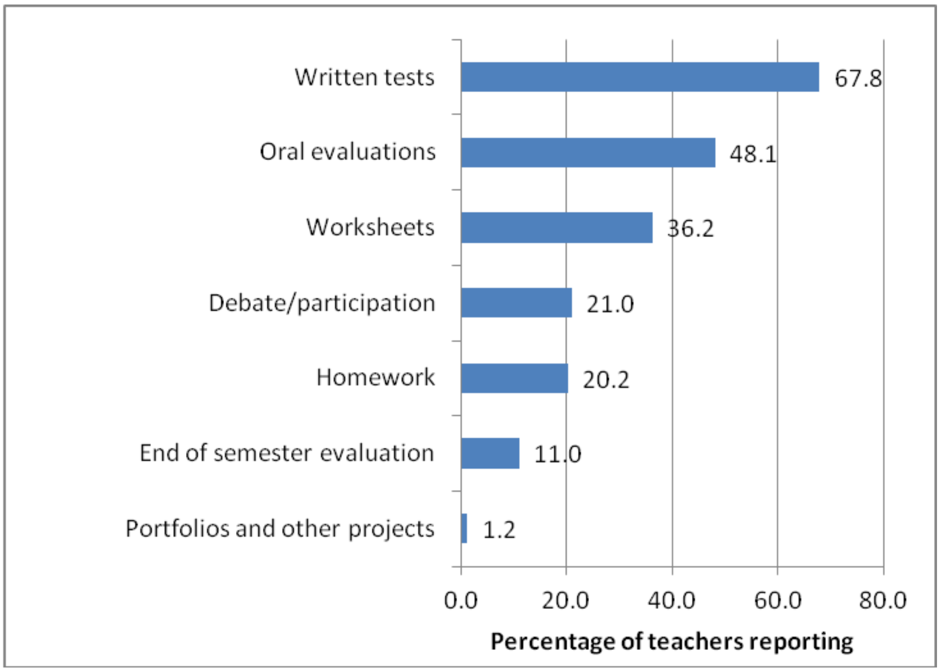
Figure 30. Evaluation approaches reported by School Principals



Teachers also applied a number of different assessment approaches, although they appear to rely more heavily on two specific evaluation approaches, with 67.8% of teachers relying on written tests and 48.1% using oral evaluation (see ***Figure 31*** below).

[57] Based on student performance on the invented word subtask of EGRA, p=.01. Note that student performance on most EGMA subtasks was also significantly better when the Head Teacher periodically evaluated students' performance orally.

Figure 31. Evaluation approaches reported by teachers



Students whose teachers reported using oral evaluations in their class performed better on average than teachers who did not use this assessment approach.[58] Teachers who reported using homework assignments and worksheets in their assessment repertoire were more likely to lead strong-performing classes.[59]

As was previously mentioned, the QIS was also applied in five randomly selected classes as a supplement to the SSME classroom observation instrument. The quality observer noted that all five observed teachers checked for student understanding by eliciting responses (oral or written) from students during the reading lesson. Four of the five teachers also followed this practice during the math lesson.

Classroom observation data indicate that students spent a substantial amount of time responding to teacher questions during reading lessons (23.5%) and math lessons (14.3 %) (see Figures 25 and 26). The quality observer noted that teachers' questions tended to be factual, "yes"/"no" types of questions that are designed to test knowledge. Teachers normally did not ask open-ended or inferential questions that are designed to stimulate discussion or critical thinking about a topic. This same observation applied both to reading and to math lessons. The quality observer also noted that for responses to questions, teachers tended to select from a small number of students who were seated at the front of the classroom. The students at the back of the room were frequently off-task when the students at the front of the room were being asked questions. In classrooms where this is the case, informal oral assessments of an entire class at once may not give the teacher a true sense of the overall state of students' understanding of the material.

[58] For example, students whose teachers used oral evaluation read 4.1 more words per minute than teachers who did not, (p=.005).

[59] Classes with teachers who rely on homework were 2.7 times more likely (p=.026), and those that rely on worksheets were three times more likely (p=.031) to be strong performing.

Regardless of the assessment approach used, information from assessments can be invaluable when tailoring instruction to student needs. Yet in Jordan, only 22% of teachers said that they use the results of these measurements to plan teaching activities or adapt their teaching to meet their students' needs. This is surprising, given the earlier discussion of feedback and teachers' responsiveness in other areas, and raises the question of why teachers are not responding to assessments of student performance by tailoring their teaching to meet their students' needs. The fact that most teachers do not report using assessment results to adjust their lesson plans is, again, further indication of a fairly rigid application of the curricular lesson plan driven by schedule rather than by the level of students' understanding of the material.

4.3 Time on Task

Even when good teaching techniques are applied, students cannot succeed if they are not given sufficient learning time at school. Time on-task is, therefore, an important indicator in determining school effectiveness. Time on-task in the classroom includes such teacher activities as oral instruction, lecturing, and leading a discussion or group activity. Classroom management and discipline are not on-task activities. Students are spending time on-task when they are reading aloud or silently, engaging in a discussion or debate, practicing a skill, or doing deskwork. They are off-task if they are interacting socially, playing, sleeping, or are otherwise disengaged.[60]

Several SSME questions are designed to provide information from which to calculate time on-task, such as when the school day starts, the length of the school day, the number of days during the school year that the school is closed, absenteeism, and the amount of time set aside for assembly and breaks. Additionally, the classroom observation instrument (previously mentioned) provides crucial insight into how lesson time is spent. Thus, rather than relying on self-reporting by teachers about time on-task, researchers were able to make direct observations in the classroom. The following discussion highlights significant findings from schools in Jordan.

4.3.1 Length of the School Year

The official school year in Jordan consists of 39 weeks, or 195 days and 1,365 hours (assuming a 7-hour school day for primary school students). Although data shows that the average school day was actually 5.9 hours, and ranged from 4 to 7 hours per day, when taking into consideration the amount of time that School Principals reported for assembly and breaks, total average class time is reduced to 5.3 hours, with a range of 3.5 to 6.2 hours per day, for an adjusted average total of 1,037 hours during the school year. This schedule surpasses the 850–1,000 minimal number of annual instructional hours recommended by the World Bank and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) through the Education for All (EFA)

[60] Time-on-task activities derived from Joseph DeStefano et al., *Using Opportunity to Learn and Early Grade Reading Fluency to Measure School Effectiveness in Ethiopia, Guatemala, Honduras, and Nepal,* USAID EQUIP2 Working Paper, 2010, p. 17.

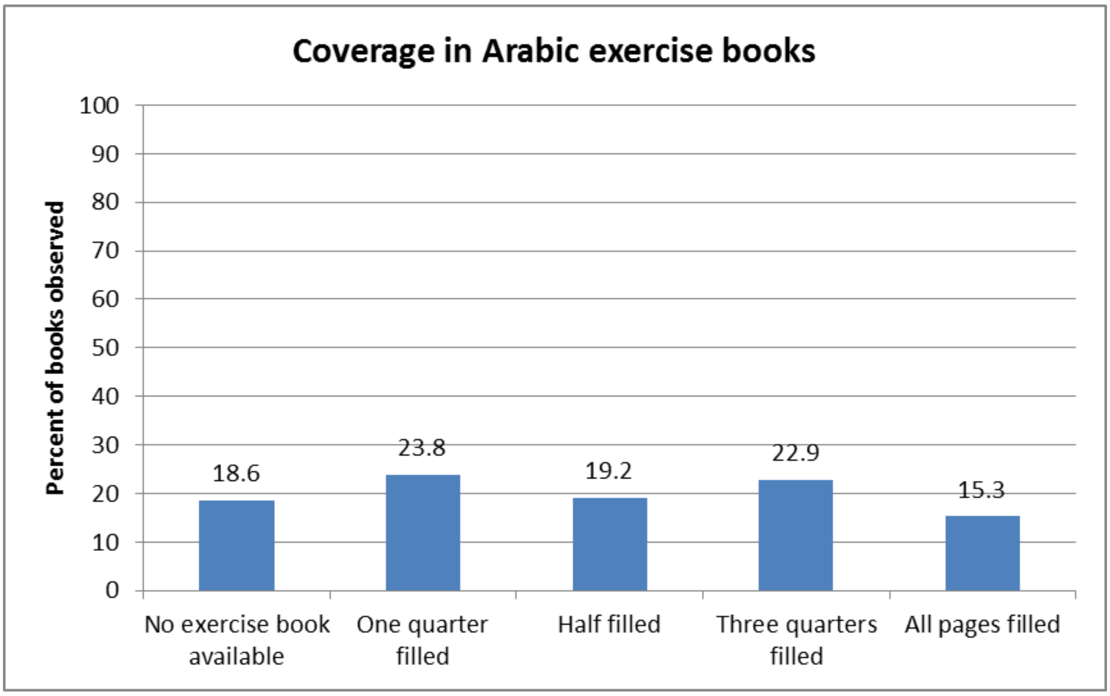
initiative.[61] A few (9.8%) of the responding School Principals reported school closings that ranged from 1 to 21 days, but most reported no unscheduled school closings.

4.3.2 Teaching Time During Observed Lessons

In addition to understanding how much time is spent in school, understanding how much of that time is spent on instruction is crucial. The majority of time during the observed grade 2 reading and math lessons was focused on learning. On average, during 5.6% of the reading lesson and 5.2% of the math lesson, the teacher was not focused on the students. On average, teachers spent 4.5% of the reading lesson on non-instructional activities. During the reading lesson, 3.3% of students' time, on average, was spent off-task (playing, socializing, or sleeping), but during the math lesson, almost 12% of students' time was spent off-task. At almost no time were teachers observed to be outside of the classroom during the observed lesson (see sections 4.2.3 and 4.2.4).

Having limited amount of time off-task is crucial to preserving instruction time throughout the year. Time-on-task impacts the amount of material a teacher and students are able to cover during the school year. Assessors examined students' Arabic exercise books to see how many pages had student writing in them. As was previously noted, the data collection took place in April and May, toward the end of the school year. Researchers found a very large variation in exercise book coverage, with some students having no book at all and others having writing on all pages of their book (see ***Figure 32***).

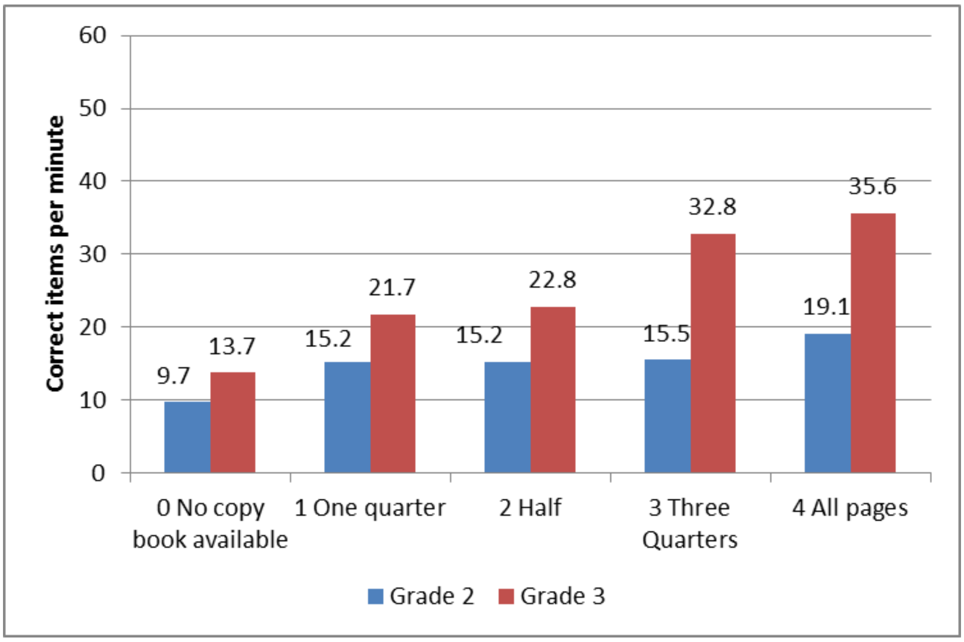
Figure 32: Results of examination of students' exercise books



[61] EFA Global Monitoring Report, 2005, p. 149.

The use of Arabic language exercise books was found to be important for building Jordanian students' beginning literacy skills. Students whose Arabic language exercise books were at least half completed showed stronger achievement in their mastery of the letter sounds and in decoding of invented words. Similarly, whereas students who did not have Arabic language exercise books had the lowest oral reading fluency scores, students whose exercise books were at least three quarters full had the highest oral reading fluency scores. The use of exercise books was also associated with stronger comprehension of written and oral passages, because students who did not use exercise books had significantly lower comprehension scores than students whose books were at least one quarter complete (***Figure 33***).

Figure 33: ORF as a function of the amount of Arabic language exercise books used



4.3.3 Student and Teacher Absenteeism and Late Arrival

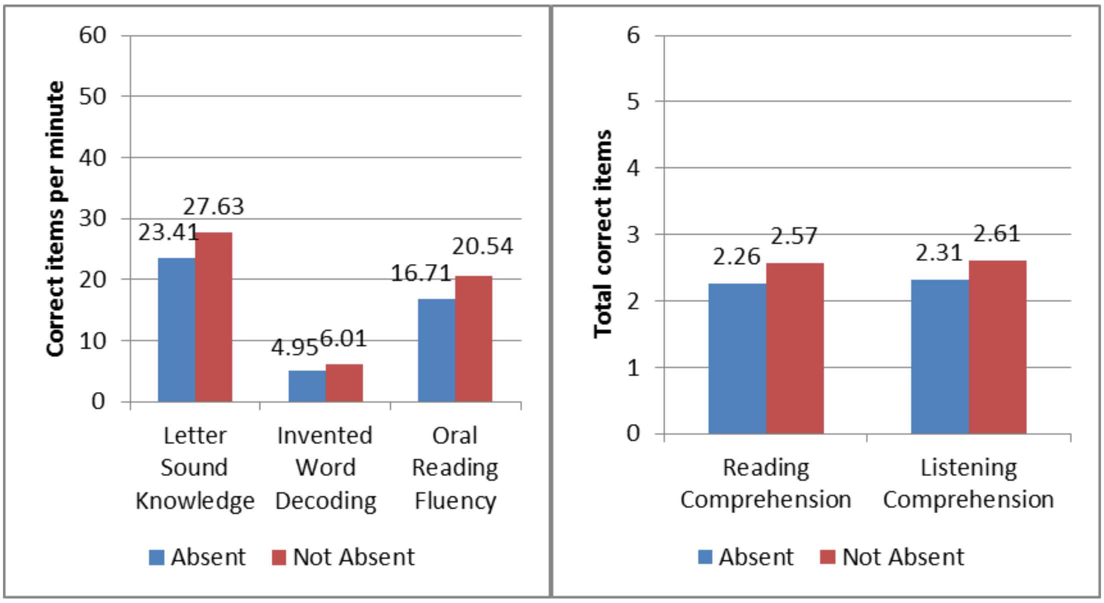
Student and teacher absenteeism can have an obvious correlation with low performance. When students were asked whether they were absent during the week prior to the assessment, 28.7% said they had been absent on one or more days. Among the students who had been absent, 77% said that they were absent due to illness; other reasons cited included having to do other work from home (7%), taking care of family members (4%), emergency (2%), and missing or late transport (all 1%).

Students who said they had missed one or more days of school in the week prior to the assessment visit had lower average scores in letter-sound knowledge, decoding invented words, and oral reading fluency, as well as in the comprehension of oral and written passages (***Figure 34***).[62] Self-reports of absenteeism can be inaccurate, so

[62] Differences in means were statistically significant. (p=.000.)

classroom observers recorded attendance rates in the sampled classrooms. On average, a classroom absenteeism rate of 12.6% [63] was observed on the day of the assessment team visit. The average observed absenteeism rate among strong-performing classes was 6.1%, whereas the rate for all other classes was 14.8%. These data highlight again the impact that absenteeism has on student performance. Observed absenteeism was higher among boys (12.9%) than girls (11.6%).

Figure 34: Literacy achievement for students who reported being absent or not absent in the previous week



Note: Separate scales were used for the two parts of Figure 34. The graph on the left shows student performance on the timed tasks and uses items/minute as the unit of measurement. The graph on the right shows student performance on the tasks that were untimed and had a restricted range for possible scores.

Because students must attend school regularly to learn, attendance records are crucial for keeping teachers and the school administration informed and aware of absenteeism issues. Nearly all (94.5%) sampled teachers reported keeping attendance records, and 94.4% of these teachers were verified by the assessment team to keep a daily record, with another 2.6% keeping a weekly record. Similarly, all (100%) School Principals reported that they keep teacher attendance records. Of these, 99.2% provided records that were kept on a daily basis.

Along similar lines, late arrival undermines students' learning time, and recurrent late arrival is associated with lower performance. On a normal school day, 1.7% of students were late, according to teacher reports. However, when asked whether they had arrived late to school one or more days during the week prior to the assessment, 14.2% of students reported being late, citing waking up late (34%), illness (21%), lack of transportation (18%), or other work at home (11%). Students who were late at least one day in the previous week showed less knowledge of letter sounds, read passages more slowly, and showed weaker comprehension of oral and written passages. As

[63] The observed absenteeism rate is equal to the observed number of students present on the day of the visit, divided by the number of students enrolled in the class.

with time off-task during lessons, absenteeism and late arrival of students can significantly erode curriculum coverage and student performance. Late arrival can also be an indication of the level of parental involvement. The percentage of students reporting that they were late was slightly lower (13 versus 16%[64]) among students whose teachers said they were satisfied with parental involvement in school.

It should also be noted that teacher absenteeism typically has a number of indirect links to teachers' level of training. Education research around the world has shown that teacher absenteeism can be a major factor in school ineffectiveness and low student performance, with surveys in several other countries showing that schools routinely lack at least a quarter of their staff.[65] However, Jordan benefits from an average teacher absenteeism rate of only 2.6%, according to School Principal reports, and a late arrival rate of 2.5%.

4.4 Summary: Characteristics of Strong-performing Classrooms

Above, several factors have been identified that, when looked at individually, were associated with stronger student performance. Some of these were school characteristics while others were classroom or student characteristics. For ease of reference, they are summarized here.

In an effort to identify some of the salient features of these strong-performing classrooms, grade 2 and grade 3 classes were separately ranked according to their average performance on the reading subtasks. The classes that performed at or above the 75th percentile were classified as being "strong-performing" classes.

In the analysis, the top-income quartile classes were excluded, because greater school resources and wealthier families tend to mask some of the in-school features associated with stronger performance. It was important to identify classes with high performing students who did not have the advantage that wealthier students might have had. In addition to excluding the wealthiest income classes, researchers controlled for school location (urban/rural and region), school gender (all girls, all boys, and mixed), and class size.

This analysis showed that there are certain classroom, school, and teacher characteristics that were associated with the stronger-performing classes. These characteristics are listed as follows.

Teachers from strong classrooms:

- were more likely to have received specific pre-service training in how to teach reading and math;
- were more likely to use homework and worksheets as one of their student assessment methods;

[64] p=0.

[65] Abadzi, Helen. 2007. *Absenteeism and Beyond: Instructional Time Loss and Consequences*, World Bank Policy Research Working Paper No. 4376, p. v.

- were more likely to use constructive responses rather than punitive responses when students made an error;
- were more likely to be satisfied with parental involvement; and
- were more likely to use some non-textbook reading books in their classrooms.

Stronger classrooms also:

- tended to have been supported by the MOE in that they received more frequent Education Supervisor visits (every two to three months during the year);
- had lower than average student absenteeism rates;
- had a School Principal who reported receiving visits from the MOE in response to school requests; and
- were more likely to have School Principals who orally evaluated students themselves, likely indicating closer School Principal involvement in classroom activities.

5. Conclusions

The aim of the present study was to measure the early reading and mathematics skills among grade 2 and grade 3 students in Jordan's public schools. The study also sought to identify school and student characteristics that were related to student performance. Early grade reading and mathematics tests were administered to a nationally representative sample of students across all regions of Jordan. The EGRA and EGMA instruments, developed in Arabic by Jordanian and international subject area specialists, were consistent with Jordanian curricular requirements. Key findings of this study were presented during a Policy Dialogue Workshop, held on August 28-30, 2012, at the Queen Rania Center, in Amman, Jordan. In addition to sharing key findings, the workshop provided an opportunity for MOE and other participants to discuss a range of key themes/findings arising from the survey and to formulate recommendations in response to the identified themes. In addition, the workshop involved the participants in discussions on the components of a pilot intervention project to be conducted between September 2012 and March 2014 in response to the findings of the survey. The remaining sessions of the workshop were attended by between 30 and 40 participants, representing the same interest groups who attended the opening session. The workshop was led by Aarnout Brombacher and Dr. Fathi El-Ashry, with guidance and support from Amy Mulcahy-Dunn in the home office. Discussions, conclusions and recommendations will be interspersed throughout the conclusions section.

EGRA

The results of the EGRA in Jordan revealed that by the end of grade 3, the majority of students had not yet acquired sufficient foundational skills to read fluently with comprehension in Arabic. Specifically, overall students showed limited knowledge of the letter sounds, a fundamental and critical skill for learning to read and spell.

Jordanian students, on average, could identify 26.4 correct letter-sounds per minute out of the 100 letters in the sample. Almost one quarter of the students (24.5%) were unable to correctly identify the sounds associated with any of the letters. Given students' difficulties in identifying letter sounds, it is not surprising that students could not sound out, or decode, unfamiliar words, reading on average 7.0 invented words at the end of grade 3. Indeed, close to half the students (47%) could not decode a single invented word. Taken together, these findings suggest that students still need to acquire the foundational skills of recognizing the letters and their different forms, knowing the sounds associated with each letter and diacritic mark, and applying this knowledge to sound out unfamiliar words.

Because the students had not acquired the basic building blocks for reading, their oral reading fluency scores were low. The students read on average 19.4 correct words per minute (Table 4), with 20.5% of the students unable to read a single word. That is, on average, students required almost 3 seconds to read each word. As a consequence, reading comprehension was low, with only 8% of grade 2 students and 26% of grade 3 students being able to correctly answer at least five of the six reading comprehension questions. Students showed comparable comprehension was similar whether they read a passage or the assessor read them a passage.The average score for both comprehension subtasks (reading and listening) being 2.5 out of 6 questions (Table 4). These findings suggest that Jordanian students need greater instructional support, not only in their word recognition and decoding skills, but also in building their oral language skills in the formal MSA used in schools. Arabic is a diglossic language, making proficiency in both the vernacular, home dialect and the formal, school-based MSA an issue that is critical for academic success. Although students may have been proficient in the vernacular dialect, their listening comprehension skills were assessed using the formal MSA.

The findings in terms of the relationship between Oral Reading Fluency (ORF) and comprehension were among those that generated the greatest response from the policy dialogue workshop participants. It was clear that until students attain a certain level of ORF, their comprehension will suffer. In general, students were found to lack strength in basic literacy skills usually taught in grade 1. Without these foundational skills, students have difficulty improving their fluency and, therefore, their reading comprehension. It was also noted that while students, in general, performed better on the letter sound subtasks, they struggled to apply this knowledge to help them decode unfamiliar words and, therefore, had difficulty in the invented words subtask. Many of the students that had successfully memorized their letter sounds did not understand how to apply this knowledge to decipher new words.

EGMA

The EGMA instrument consisted of two distinctly different kinds of subtasks: those subtasks that assess more procedural knowledge (number identification, quantity discrimination, and addition and subtraction level 1), and subtasks that assess a more conceptual understanding/application of the procedural knowledge assessed in the other tasks (missing number, addition and subtraction level 2, and word problems).

The overriding trend that is evident across the EGMA results and at both grade levels is that the students do better on the more procedural items and less well on the items that require them to understand and apply their (procedural) knowledge. This probably reveals more about how students experience the teaching and learning of mathematics than it does about the innate abilities of the students.

There are two distinctly different views of the subject. On the one hand, mathematics can be regarded as the "*memorization of facts, rules, formulas, and procedures needed to determine the answers to questions*"; on the other hand, mathematics can be regarded as a "*meaningful, sense-making, problem-solving activity.*" The former has been the predominant view for many generations, and its deficiency is evident in the ongoing struggle of young children to make sense of and succeed in the study of mathematics.

The Jordanian EGMA results suggest that memorization plays a large role in the way that children know and learn mathematics. The fact that, throughout the study and across the grades, there is a trend of children doing well on the items that rely on procedural knowledge—knowledge that can also be memorized—and then do markedly less well on the tasks and items that require both understanding and the application of what should be procedural (rather than memorized) knowledge, points strongly in this direction.

The EGMA results trend that resonated with the workshop participants' expectations and made the greatest impression was that students generally performed significantly better on the more procedural tasks and struggled with the more conceptual tasks that required the application of procedural knowledge. That students performed poorly on the Level 2 addition and subtraction tasks that involved simply adding two-digit numbers, while grade 2 students in Jordan are adding and subtracting three- and four-digit numbers in class, raised quite some concern.

SSME

The SSME has identified several ways that Jordan's education system offers a positive foundation for learning. Schools and classrooms are generally well-resourced with mostly clean and neat campuses, and teachers and students do not suffer from a shortage of textbooks and exercise books. School Principals report that teacher absenteeism rates are very low. Most teachers respond constructively to their students' errors and provide feedback in student exercise books. The SSME also identified areas for improvement in Jordan's schools. These areas were grouped into main themes when presented at the Policy Dialogue Workshop.

1. How Children Learn

The survey has shown that when learning to read, students are taught to memorize whole words and phrases. This explains, in part, why students struggle to decode and read unfamiliar words, which impacts their fluency and thus, impacts their comprehension.

The survey has shown that students “know” their basic addition and subtraction facts. Yet, they seem unable to use these facts to solve related addition and subtraction problems, even at the two-digit level.

A shift in the focus of teaching is needed—from teaching by memorization to teaching for understanding—a shift from quantity to quality. This needs to be addressed through both in-service and pre-service programs, as well as in day-to-day classroom practice. Currently, fewer than half of the teachers reported receiving pre-service training in specifically how to teach reading.

2. Curriculum coverage at the cost of learning

The survey has shown that teachers are teaching according to the Jordanian Period Allocation Plan. In grade 2 math, this means that they are teaching three- and four-digit addition and subtraction to students who, the survey has shown, are struggling to add two-digit numbers. In grade 2 reading, this means that they are teaching reading comprehension and oral reading to students who, the survey has shown, are struggling to recognize letter sounds and read unfamiliar words.

A shift in the focus of teaching is needed—from “completing the curriculum” to responding to the developmental/learning needs of students—a shift from quantity to quality.

3. Assessment: Shifting from action to purpose

a. The survey has shown that teachers are using a wide range of different assessment tools and strategies. However, very few teachers claimed to use the results of the assessment to inform their instruction practices (lesson planning) and/or to respond to the needs of students.

b. In their classroom interaction, teachers tend to ask only yes/no questions. There was little evidence of teachers asking open-ended or inferential questions that would facilitate students’ reflection and learning.

c. A shift in the focus of assessment is needed—from assessment as a necessity (something that is done because it has to be done) to assessment as a teaching and learning resource. Teachers need to learn how to use assessment results to both evaluate where students have or have not mastered curricular content and to adapt their teaching approaches to more closely match students’ needs. Teachers need to understand the value of formative assessment.

4. Curriculum—too demanding too early

The mathematics curriculum expects that grade 2 students are adding and subtracting three- and four-digit numbers, and yet the survey has shown that grade 2 students are struggling to add and subtract with two-digit numbers. The reading curriculum (as reflected in the reading textbooks) expects that grade 2 students should be able to read extended texts with long sentences and multi-syllable words, and yet the survey has shown that grade 2 students are struggling to decode unfamiliar words, and the low comprehension scores indicate that students are not reading with the expected fluency.

There is a need to moderate the expectations of the early grade curricula. This is not to say that the curriculum should not be demanding and set high standards; it is more that the current standards may be unattainable in the early grades. The survey results could be used to set more realistic expectations and benchmarks for the early grades.

5. Training of early grade teachers is not sufficiently focused

Classroom observation during the survey indicated that teachers' approaches to teaching reading, in particular, were not sufficiently guided by a well-structured and informed methodology. Teachers need to be better trained in how to teach early reading. The results in math suggest that teachers are also not well trained in the effective development of early number sense.

There is a need for focused in-service training that provides practicing teachers with effective classroom routines for the teaching of early reading and math. If the foundation is not well established, the learning that follows is at risk. Training in the use of these routines needs to be incorporated into pre-service teacher training programs, as well.

6. Parents are a valuable resource

Parents are a valuable resource in the challenge of improving early grade reading and math performance. There is a need to make parents aware of the many things that they can do, within their means, which have a positive impact on their child's learning experience.

The survey has shown that children benefit from:

a. Having parents that take an interest in what happens at school.
    i. Checking to see if children have completed their homework.
    ii. Monitoring their grades and encouraging their children to do well, praising them when they succeed and supporting them when they have difficulties.
    iii. Even simple things such as ensuring that their children get to school on-time every day, can make a difference in their child's performance.

b. Reading aloud and being read to at home on a regular (ideally, daily) basis; and
    i. Attending pre-school/kindergarten.
    ii. Having access to a range of different books and other reading materials at home.

Additionally, although teachers employed a variety of evaluation methods to assess student performance, few used these measurements to adjust their lessons according to their students' level of understanding of the material. Frequent visits and consistent support by the MOE contributed to strong classrooms, but only a minority of teachers and School Principals reported this level of involvement. School Principals who orally evaluated students to monitor performance were associated with stronger classrooms, but only about one third of School Principals reported using this evaluation approach. Time on Task is an important factor linked to student learning. Minimizing time off task for all students in class and continuing to reduce absenteeism and late arrival will help to continue to preserve time on task.

Thus, expanding the number of teachers receiving pre-service training in how to teach early grade reading and carefully evaluating the content of that training to ensure a greater focus on the development of foundational reading skills and conceptual understanding of mathematics could improve student learning in early grades. In addition, greater flexibility in the application of the curriculum, greater use of assessment results to guide lesson planning, and more constructive involvement by teachers, School Principals, MOE officials, and parents could all work to help improve student performance.

6. Outcomes and Key Decisions Resulting from the Policy Dialogue Workshop

During August 28-30, 2012, a policy dialogue workshop was convened in Amman to discuss the findings of this study and its implications for early grade learning in Jordan. Representatives from RTI, USAID/Jordan, and the MOE were in attendance, among others.

In an effort to maximize the benefits that the study's findings could have on early grade learning in Jordan, USAID set aside resources for the dissemination of findings, for a MOE-led curricular review of the early grade curriculum and teaching plan, and for the development and implementation of a pilot study designed to apply lessons learned from the survey and assessment to help teachers, their schools, and communities improve student learning at the early grade level. Accordingly, the participants spent time on the third and final day of the workshop discussing these three follow-on activities. The key points made during these discussions are summarized below.

6.1 Dissemination of Findings

With regard to dissemination of the findings, it was decided that key findings from the study would be disseminated broadly via a series of briefs to be tailored to the following specific audiences.

- Council of Education and Members of Parliament
- Education District Managers and Education Supervisors
- Colleges of Education and universities involved with teacher training
- School Principals
- Teachers and teacher associations/unions
- Other aid/intervention agencies, and
- Parents.

6.2 Review of Early Grade Curriculum

Additionally, it was decided that the MOE will lead a review of the early grade curriculum in light of the study findings. Particular focus will be placed on identifying gaps and adapting benchmarks within the early grade curriculum. A team consisting of MOE curriculum planners, university lecturers, supervisors, and specialist teachers—supported by RTI technical experts—will be responsible for the process. Once the initial curricular review has been completed, the review teams will prepare protocols for the supplementary teaching materials needed for the implementation of a reading and math pilot in grades 1, 2 and, resources permitting, grade 3. Using these protocols as a guide, MOE staff will then develop supplementary classroom materials in collaboration with RTI staff. These materials will consist of the following:

- Teacher guides
- Classroom materials
- Other necessary instructional materials, for example, flash cards, etc.
- Mini-library book sets per classroom
- Interactive computer materials, if available and appropriate

6.3 Teacher Training (including School Principals)

The teacher training component of the pilot intervention project will focus primarily on grades 1 to 3. The pilot teacher training program will include the following:

- Specific training on the teaching of early grade **reading,** with focus on grades 1 to 3.
- Specific training on the teaching of early grade **numeracy/mathematics** with focus on grades 1 to 3.
- Greater focus on conceptual than procedural knowledge
- Using assessment for teaching, while simultaneously fitting into the broader MOE assessment environment.
- Effective classroom management routines, in general, and routines that, more specifically, address ways of dealing with a wide range of students in a class.

The pilot teacher training program will be developed by a team consisting of MOE curriculum planners, university lecturers, supervisors, and specialist teachers—supported and guided by RTI technical experts. The administration of the teacher training will be conducted by the same MOE lead team of experts, with RTI staff providing technical support as needed. In an effort to maximize potential synergies and minimize redundancy between this pilot effort, other relevant and on-going MOE initiatives, and other existing donor-supported projects, open lines of communication and close collaboration across endeavors should be encouraged.

6.3.1 Mentoring and support

The pilot intervention program assumes a mentoring-of-teachers approach. For the mentoring/support component of the pilot intervention, it was decided that:

- As far as possible, the MOE education supervisors should play a central role.
- As soon as the project scope has been determined, in terms of number of schools, geographic regions, and number of sessions per school/teacher etc., the MOE will then be in a position to indicate whether the education supervisors (whose job this is) will be sufficient or if additional staff will need to be appointed by RTI.

Annex A: EGRA and EGMA Instruments

Form __

أداة تقييم مهارات القراءة في المرحلة الأساسية: نموذج تعليمات المقيّم 2012

تعليمات عامة

من المهم أن تضفي جوًّا من المرح مع الطفل الذي سيخضع للتقييم بحيث تبدأ معه بمحادثة بسيطة حول مواضيع تهمه (انظر المثال أدناه). أشعره بأن هذا التقييم هو تقريبا بمثابة لعبة سيستمتع بها وليست بالمهمة الصعبة.

من المهم جدًّا أن تقرأ محتوى المربعات **فقط**، بصوت عال وبوضوح وتمهّل.

صباح الخير. اسمي_____ أسكن في_____. أريد أن أتكلم معك عن نفسي، عندي .... من الأطفال، عمرهم ....؛ عندي في البيت........، الرياضة التي أمارسها ....، إلخ]
1. تكلم لي عن نفسك وعن عائلتك؟ [انتظر الجواب؛ إذا كان التلميذ غير متحمس للكلام، وجّه إليه السؤال رقم2. إذا تكلم بارتياح، انتقل لفقرة الموافقة الشفهية].
2. ما اللعبة التي تحبها؟

الموافقة الشفهية

اسمح لي أن أقول لك لماذا أنا معك اليوم. أنا أعمل في وزارة التربية والتعليم وأحاول أن أفهم كيف يتعلم الأطفال القراءة. لقد تم اختيارك للقيام بهذا الاختبار بشكل عشوائي. **أحب أن تتعاون معي في هذه العملية. ولكن إذا لم ترد المشاركة، فلك ذلك.** **سنلعب لعبة القراءة حيث سأطلب منك أن تقرأ بعض الحروف وبعض الكلمات و قصة قصيرة بصوت عال.** **سأستعمل هذه الساعة لأحسب الوقت الذي تحتاجه في القراءة.** **هذا ليس امتحانا وليس له أي تأثير على علاماتك المدرسية.** **سأسألك بعض الأسئلة الأخرى عن عائلتك.** **لن أكتب اسمك على ورقة الاختبار. لن يرى أي أحد إجاباتك عليه.** **مرة أخرى، أنت غير ملزم بالمشاركة إذا لم تكن ترغب في ذلك. و إذا بدأنا ولم ترد الجواب عن أي سؤال، فلا مشكلة في ذلك.** **هل لديك سؤال ؟هل أنت مستعد؟**

إذا حصلت على الموافقة الشفهية للطفل ضع علامة (×) في هذا المربع ☐ نعم

(إذا لم تحصل على الموافقة، اشكر الطفل وانتقل للطفل الذي بعده واستعمل نفس الاستمارة)

1. تاريخ التقييم **مثال:** 15 آذار 2011 = 15 -03-2011	اليوم:___ الشهر:___ السنة: ___
2. المحافظة:	
3. مديرية التربية والتعليم:	
4. اسم المدرسة	
5. الرقم الوطني للمدرسة:	

6. فترة دوام الطفل	o فترة واحدة o فترة صباحية o فترة مسائية
7.اسم المقيم	
8.رمز المقيم: (ذاتي)	
9. الصف:	o الثاني (2) o الثالث (3)
10. الشعبة:	
11. رقم الطفل:	
12. تاريخ ميلاد الطفل:	الشهر:___ السنة: ___
13. جنس الطفل:	o طفل o طفلة
14.وقت البدء بالاختبار:	_____ : ______ □صباحًا (اختر واحدة منها) □مساءً

📖	**القسم1 – التعرف على أصوات الحروف**	60 ⏱ ثانية
	🗣هذه ورقة تضم حروفاً وحركات عربية، اقرأ قدر ما تستطيع منها (اقرأ صوت الحرف وليس اسمه). **مثلا، صوت هذا الحرف** [*أشر إلى الحرف "لـــ"*] **هو** *"لـــ"* **كما في كلمة** "مَلْعَب". **و الآن لنقم بهذا التمرين: قل لي صوت هذا الحرف [***وأشر إلى الحرف "كـــ"*]: إذا كان جواب الطفل صحيحا، قل: **جيد، صوت هذا الحرف هو"كـــ"** إذا كان جواب الطفل غير صحيح، قل : **صوت هذا الحرف هو"كـــ"** **لنجرب مثالاً آخر: قل لي صوت هذه الحركة [***أشر إلى الفتحة ـَــ***]:** *إذا كان جواب الطفل صحيحا، قل*: **أحسنت، صوت هذه الحركة هو "ـــَــ"** *إذا كان جواب الطفل غير صحيح، قل*: **صوت هذه الحركة هو "ـــَــ"** **هل فهمت المطلوب منك؟** **عندما أقول لك "لنبدأ"، اقرأ صوت الحروف بدقة وبأكبر سرعة ممكنة. سنبدأ من هنا ونكمل بهذه الطريقة** *[أشر إلى الحرف الأول في السطر الأول، وتتبع معه بأصبعك على الحروف الموجودة في السطر الأول بأكمله]*. **هل أنت مستعد؟ لنبدأ** ✍ضع **بوضوح** علامة (/) على أي خطأ يرتكبه الطفل. ✍في حالة قيام الطفل بتصحيح نفسه، قم بوضع دائرة ○ حول علامة (/) التي وضعتها مسبقا له. ✍ضع العلامة (**]**) على آخر حرف قرأه الطفل.	✋ **بعد مرور 60 ثانية،** ستقول للطفل **"توقف".** ➲ إذا تردد الطفل في قراءة الحرف لمدة تزيد عن 3 ثوانٍ، أشر للحرف الذي يليه وقل : "**لنكمل من فضلك**". ✋ قاعدة التوقف المبكّر: إذا وضعت علامة (/) على جميع الأجوبة في السطر الأول على أنها خاطئة ولم يصحح الطفل أي خطأ من أخطائه، قل "**شكرا**" وأوقف التمرين. ضع علامة (×) في المربع

الموجود في أسفل الصفحة وانتقل للتمرين الذي بعده.

1	2	3	4	5	6	7	8	9	10	
هـ	نـ	قـ	ف	ب	ا	تـ	أ	بـ	طـ	(10)
ـُ	ـِ	أ	مـ	ه	ـُ	سـ	ذ	صـ	ـُ	(20)
ثـ	حـ	فـ	ع	أ	إ	نـ	ؤ	لـ	ك	(30)
ـِ	ـي	ن	س	ا	شـ	عـ	ـَ	مـ	ا	(40)
ظـ	ـَ	فـ	ظ	و	و	ـَ	ذ	ـِ	ص	(50)
فـ	ـِ	ل	ـعـ	نـ	مـ	ـً	ـُ	ـَ	نـ	(60)
ي	ـَ	د	غ	خـ	آ	ا	ر	ة	م	(70)
أ	ـَ	ة	ـه	ز	و	فـ	ـئ	ـٌ	فـ	(80)

✍ الوقت المتبقي من وقت التمرين (عدد الثواني):

✍ ضع علامة (×) في هذا المربع في حال أوقفت هذا الجزء من التقييم لأن الطفل لم يقرأ أي حرف في السطر الأول بشكل صحيح.

القسم 2 – قراءة كلمات مخترعة 📖

60 ⏱ **ثانية**

بعد مرور 60 ثانية، ستقول 'توقف'.

هذه بعض الكلمات المخترعة. اقرأ بشكل صحيح أكبر عدد ممكن منها. لا تقرأ حرفا بحرف بل اقرأ الكلمة بالكامل. مثلاً هذه الكلمة المخترعة هي " الفَلأَطْ **".**

الآن اقرأ الكلمة التالية: [*أشر إلى كلمة شَلاَمِيذُ*]:

إذا قال الطفل "شَلاَمِيذُ" ، قل له **:أحسنت، " شلامِيذُ"**

إذا لم يقل الطفل " شلاَمِيذُ " بشكل صحيح، قل: **هذه الكلمة المخترعة هي " شَلاَمِيذُ"**

لنجرب الآن كلمة أخرى: اقرأ هذه الكلمة [*أشر إلى كلمة " ناسِبَ"*]:

إذا قال الطفل " ناسِبَ "، قل: **جيد جداً ، " ناسِبَ "**

إذا لم يقل الطفل " ناسِبَ " بشكل صحيح، قل: **هذه الكلمة المخترعة هي "ناسِبَ"**

إذا تردد الطفل في قراءة كلمة لمدة تزيد عن 3 ثوانٍ. أشر للكلمة التالية وقل: "**<u>لنكمل من فضلك</u>**".

عندما أقول لك "ابدأ"، اقرأ الكلمات بدقة وبأكبر سرعة ممكنة. سنبدأ من هنا ونكمل بهذه الطريقة [*أشر إلى الكلمة الأولى في السطر الأول، وتتبع معه بأصبعك الكلمات في السطر الأول بأكمله***].**

هل أنت مستعد؟ لنبدأ

<u>قاعدة التوقف المبكر</u>: إذا وضعت علامة (/) على جميع الأجوبة في السطر الأول لأنها خاطئة ولم

✍ضع **بوضوح** علامة (/) على أي خطأ يرتكبه الطفل.

✍في حالة قيام الطفل بتصحيح نفسه، قم بوضع دائرة ◯حول علامة (/) التي وضعتها مسبقا له

✍ضع العلامة (**]**) على آخر كلمة قرأها الطفل.

يصحح الطفل أي خطأ من أخطائه، قل "**شكرا**" وأوقف التمرين. ضع علامة (×) في المربع الموجود في أسفل الصفحة وانتقل للتمرين الذي بعده.

1	2	3	4	5	
تِماجي	أظي	تَشْبِرونَ	نَبُرَ	بُحِبُّ	(5)
شاوَ	فُدّاساً	قَدْحُنُ	ماصي	أُحّي	(10)
ثَوْلَ	صالِب	شَمْدَ	مِيهِ	خابَةٌ	(15)
قاطٍ	قَبير	أُقّي	غَيْسَمُ	سَحْتَ	(20)
صالِدٌ	فِعْ	رَيْلَمُ	أغي	جيها	(25)
أَمْشَنُ	تاري	ضا	را	تَخْمُ	(30)
بِلْخُ	سَلْعَبُ	انْفَيصَرَ	قِماسي	أفا	(35)
خَمْبَ	قَبِسَهُ	خَناءً	جُدْء	سَمْهٌ	(40)

✍ الوقت المتبقي من وقت التمرين (عدد الثواني):

✍ ضع علامة (×) في هذا المربع □ في حال أوقفت هذا الجزء من التقييم لأن الطفل لم يقرأ أيًّا من الكلمات في السطر الأول بشكل صحيح.

📖 القسم 3- أ.	**قراءة نص شفهياً**	📖 القسم3 – ب.	**فهم المقروء**
هذه قصة قصيرة، ركز جيدًا واقرأها بشكل صحيح و بصوت عال وبأقصى سرعة ممكنة. حين تنتهي، سأسألك بعض الأسئلة حول ما قرأته. هل فهمت المطلوب منك؟ حين أقول لك "النبدأ"، ابدأ بالقراءة. مستعد؟ لنبدأ.		**اسحب نص القصة من أمام الطفل** ووجه إليه الأسئلة أدناه. اترك للطفل 15 ثانية على الأكثر كي يجيب عن كل سؤال. **وجّه السؤال المقابل لكل سطر قرأه الطفل حتى تصل إلى السطر الذي يحتوي العلامة([ ) والتي تشير إلى مكان توقف الطفل عن القراءة.**	
60 ثانية **بعد مرور 60 ثانية**، ستقول **'توقف'**. حين يتردد الطفل لمدة تزيد على 3 ثوانٍ في قراءة الكلمة. أشر إلى الكلمة التالية وقل : "**النكمل من فضلك**" قاعدة التوقف المبكر: إذا وضعت علامة (/) على جميع الكلمات في السطر الأول على أنها خطأ ولم يصحح الطفل أي خطأ من أخطائه، قل "**شكرًا**" وأوقف التمرين. ضع علامة (×) في المربع الموجود في أسفل الصفحة وانتقل إلى التمرين الذي بعده.		**سأوجه إليك الآن بعض الأسئلة حول القصة التي قرأت. أجب عن الأسئلة بشكل صحيح.**	

ضع **بوضوح** علامة (/) على أي خطأ يرتكبه الطفل اثناء القراءة. ضع العلامة ([ ) على آخر كلمة قرأها الطفل.		ضع علامة (×) في الخانة التي تتناسب مع إجابة الطفل، و من ثم انتقل إلى السؤال الذي يليه.	لا إجابة	غير صحيحة	صحيحة
عادَتْ تالا مِنْ مَدْرَسَتِها عِنْدَ الظُّهْرِ وَهِيَ فَرِحَةً،	**8**	**مَتى عادَتْ تالا مِنْ مَدْرَسَتِها ؟ عند الظهر**			
فَسَأَلَتْها والِدَتُها عَنْ سَبَبِ فَرْحَتِها،	**13**	**مَن اسْتَقْبَلَ تالا عِنْدَ عَوْدَتِها مِنَ الْمَدْرَسَةِ؟ والدتها**			
فَأَجابَتْ تالا: أَثْناءَ عَوْدَتي سَمِعْتُ صَوتَ قِطَّةٍ تَموءُ؛	**21**	**ماالصَّوْتُ الَّذي سَمِعَتْهُ تالا ؟ صوت قطة تموء**			
فَأَخَذْتُ أَبْحَثُ عَنْها حَتّى وَجَدْتُها عالِقَةً بَيْنَ مَجْموعَةِ صُخورٍ تَنْظُرُ إِلَيَّ بِحُزْنٍ،	**33**	**أَيْنَ عَلِقَتِ الْقِطَّةُ ؟ بين مجموعة صخور**			
وَساعَدْتُها عَلى الْخُروجِ؛ فَانْطَلَقَتِ الْقِطَّةُ مُسْرِعَةً.	**39**	**ما سَبَبُ فَرْحَةِ تالا؟ مساعدة القطة على الخروج**			
قالَتْ والِدَتُها : بورِكْتِ يا ابْنَتي، هَذا عَمَلٌ رائِعٌ يَرْضى عَنْهُ اللهُ.	**51**	**ماذا قالَتْ والِدَةُ تالا لابْنَتِها ؟ بوركت يا ابنتي، هذا عملٌ رائعٌ يرضَى عنهُ اللهُ. / بوركت (يا ابنتي) / هذا عملٌ**			

			رائعٌ (يرضَى عنهُ اللهُ)	

✍ الوقت المتبقي من وقت التمرين (عدد الثواني):	
✍ ضع علامة (×) في هذا المربع □ في حال أوقفت هذا الجزء من التقييم لأن الطفل لم يقرأ أي كلمة في السطر الأول بشكل صحيح.	

القسم4 – فهم المسموع	X 🕮

X ⌚

يقرأ المقيّم بصوت عال النص التالي ولمرة واحدة فقط وبتأنٍّ(كلمة كل ثانية تقريبًا). قل للطفل:

سأقرأ عليك قصة قصيرة بصوت عال، مرة واحدة فقط. و بعد ذلك سأوجّه إليك بعض الأسئلة. اسمع جيدًا من فضلك وأجب عنها بشكل صحيح. هل فهمت المطلوب منك؟

في بدايَةِ الْعُطْلَةِ الصَّيْفِيَّةِ أرادَتِ الأُسْرَةُ الْقِيامَ بِرِحْلَةٍ. اقْتَرَحَ الأَبُ الذَّهابَ إلى الْبَحْرِ؛ لِلتَّمَتُّعِ بالسِّباحَةِ، وَرُكوبِ الْقارِبِ. قالَتِ الأُمُّ: لِماذا لا نَذْهَبُ إلى الرّيفِ لاسْتِنْشاقِ الْهَواءِ النَّقِيِّ، وَجَمْعِ النَّباتاتِ الْمُفيدَةِ؟ أمّا خالِدٌ فَأرادَ الذَّهابَ إلى مَدينَةِ الألْعابِ. وَبَعْدَ أنْ طالَ النِّقاشُ تَدَخَّلَ الْجَدُّ قائِلاً: يُمْكِنُنا زِيارَةُ الأماكِنِ جَميعِها بِعَمَلِ بَرْنامَجٍ لِلرِّحْلاتِ. فَرِحَ الْجَميعُ بِاقْتِراحِ الْجَدِّ. "

صحيحة	غير صحيحة	لا إجابة	
			مَتى أرادَتِ الأُسْرَةُ القِيامَ بِرِحْلَةٍ؟ **<u>في بدايَةِ الْعُطْلَةِ الصَّيْفِيَّةِ</u>**
			لِماذا يُريدُ الأَبُ الذَّهابَ إلى البَحْرِ؟ **<u>لِلتَّمَتُّعِ بالسِّباحَةِ، وَرُكوبِ الْقارِبِ</u>** **<u>لِلتَّمَتُّعِ بالسِّباحَةِ</u>** **<u>رُكوبِ الْقارِبِ</u>**
			مَنْ يُفَضِّلُ جَمْعَ النَّباتاتِ المُفيدَةِ؟ **<u>الأم</u>**
			مَنْ أَصْغَرُ شَخْصٍ في القِصَّةِ؟ **<u>خالد</u>**
			مَتى تَدَخَّلَ الجَدُّ؟

			<u>بَعْدَ أنْ طالَ النِّقاشُ</u>
			عَلى ماذا اتَّفَقَتِ الأُسْرَةُ؟ **<u>على عَمَلِ بَرْنامَجٍ لِلرِّحْلاتِ</u>** **<u>على اقتراح الجدّ</u>** **<u>على الذهاب إلى الأماكن جميعها</u>**

المهمة1: التعرف الى الأعداد	A	30 ثانية

فيما يلي بعض الأعداد، أريد منك أن تقرأ كل عدد. عندما أقول إبدأ ، اقرأ الأعداد. سأصمت وأستمع اليك. أبدا من هذا العدد وتابع من اليمين الى اليسار سطرا بسطر.

(اشر الى اول عدد) ابدأ من هنا . هل أنت مستعد؟

ابدأ

ما هو هذا العدد ؟

(/) غير صحيح أو بدون اجابة

([ ) عند آخر بند اجابه الطالب

٣	٩	٠	١٢	٣٠
٢٢	٤٥	٣٩	٢٣	٤٨
٩١	٢١	٧٤	٨٧	٦٥
١٠٨	٢٤٥	٥٨٠	٧٣١	٩٨٩

- عند انتهاء الوقت المحدد (30 ثانية) ضمن ساعة التوقيت.
- اذا قمت بتسجيل جميع الأجابات الموجودة في أول خمسة بنود على أنها خاطئة، توقف عن إكمال هذه المهمة، ضع علامة في المربع الموجود أسفل الصفحة ثم انتقل الى المهمة التالية.

- إذا توقف الطالب عند البند لمدة 5 ثوان.

الوقت المتبقى (بالثواني)	* *
ضع أشارة داخل المربع أذا توقف الاختبار نتيجة لعدم وجود اجابة صحيحة من الطالب في أول خمس بنود.	* *

المهمة 2 : مقارنة الأعداد – تمرين	B1	×
انظر إلى هذين العددين. أيهما أكبر ؟ ✓ صحيح ٨ هو الأكبر. لنتابع ✗ العدد ٨ هو الأكبر . [أشر إلى ٨] هذا هو العدد ٨ . [أشر إلى ٤] هذا هو العدد ٤ . العدد ٨ أكبر من ٤. لنتابع .		× ×
انظر إلى هذين العددين. أيهما أكبر ؟ ✓ صحيح ١٢ هو الأكبر. لنتابع ✗ العدد ١٢ هو الأكبر . [أشر إلى ١٠] هذا هو العدد ١٠. [أشر إلى ١٢] هذا هو العدد ١٢ . العدد ١٢ أكبر من ١٠. لنتابع .		

المهمة 2 : مقارنة الأعداد	B2 & B3	60 ثانية
أنظر الى كل عددين وأخبرني أيها أكبر (كرر مع كل بند)		• عند انتهاء الوقت المحدد (60 ثانية) ضمن ساعة التوقيت. • اذا قمت بتسجيل جميع الأجابات الموجودة في أول خمسة بنود على أنها خاطئة، توقف عن إكمال هذه المهمة، ضع علامة في المربع الموجود أسفل الصفحة ثم انتقل الى المهمة التالية . • إذا توقف الطالب عند البند لمدة 5 ثوان.
(/) غير صحيح أو بدون اجابة ( ]) عند آخر بند اجابه الطالب		
الوقت المتبقى (بالثواني)		* *

٩٤	٩٤	٧٨	٧	٧	٥
١٥٣	١٤٦	١٥٣	٢٥	١٢	٢٥
٥٣٧	٢٨٧	٥٣٧	٣٤	٣٤	٢٩
٦٥٠	٦٥٠	٦٠٥	٥٨	٥٨	٤٨
٩٦٧	٩٦٥	٩٦٧	٦٧	٦٥	٦٧

✍ ضع أشارة داخل المربع أذا توقف الاختبار نتيجة لعدم وجود اجابة صحيحة من الطالب في أول خمس بنود.	* *

المهمة 3: العدد الناقص - تمرين	C1	×

لاحظ الأعداد التالية١،٢، ٤، ما هو العدد المناسب؟

١	٢	(٣)	٤

✓ صحيح ٣. لننتقل الى مثال آخر

✗ هنا العدد هو ٣ . والآن قم بترديد الاعداد معي (مع الإشارة إلى كل عدد على حدة)؛ ١,٢, ٣,٤,إذن العدد المناسب هو ٣. لننتقل الى مثال آخر

×

×

لاحظ الأعداد التالية ٥ ،١٠ , ١٥ ما هو العدد المناسب (أشر إلى الفراغ)

٥	١٠	١٥	(٢٠)

✓ صحيح ٢٠. لنتابع

✗ العدد المناسب هو ٢٠ ,و الان قم بترديد الاعداد معي, (مع الإشارة إلى كل عدد على حدة)؛ ٥ , ١٠, ١٥ , ٢٠, إذن العدد المناسب هو ٢٠. لنتابع.

المهمة 3: العدد الناقص	C3 & C2	60 ثانية

فيما يلي لدينا أسئلة أخرى من هذا النوع: ضع العدد المناسب داخل المستطيل الفارغ. (كرر هذه الملاحظة لكل بند)

(/) غير صحيح أو بدون اجابة

([ ) عند آخر بند اجابه الطالب

- عند انتهاء الوقت المحدد (60 ثانية) ضمن ساعة التوقيت.
- اذا قمت بتسجيل جميع الأجابات الموجودة في أول خمسة بنود على أنها خاطئة، توقف عن إكمال هذه المهمة، ضع علامة في المربع الموجود أسفل الصفحة ثم انتقل الى المهمة التالية .

1

٥	٦	٧	(٨)

6

٣٤٨	٣٤٩	(٣٥٠)	٣٥١

2	١٤	١٥	(١٦)	١٧
3	٣٠	(٤٠)	٥٠	٦٠
4	(٢٠٠)	٣٠٠	٤٠٠	٥٠٠
5	٢	٤	٦	(٨)
7	٢٨	(٢٦)	٢٤	٢٢
8	٣٠	٣٥	(٤٠)	٤٥
9	٥٥٠	٥٤٠	٥٣٠	(٥٢٠)
10	٣	٨	(١٣)	١٨

- إذا توقف الطالب عند البند لمدة 5 ثوان.

الوقت المتبقى (بالثواني)	* *
ضع أشارة داخل المربع أذا توقف الاختبار نتيجة لعدم وجود اجابة صحيحة من الطالب في أول خمس بنود.	* *

المهمة 4A: عملية الجمع – المستوى 1	D2 & D1	30 ثانية
إليك بعض أسئلة الجمع (مرر يدك على الأسئلة من الاعلى الى الاسفل). جد ناتج الجمع لكل مما يأتي. أذا لم تتمكن من معرفة الناتج. أنتقل الى السؤال التالي. هل أنت مستعد؟...... أبدأ من هنا (أشر الى السؤال الاول)		• عند انتهاء الوقت المحدد (30 ثانية) ضمن ساعة التوقيت. • اذا قمت بتسجيل جميع الأجابات الموجودة في أول خمسة بنود على أنها خاطئة، توقف عن إكمال
(/) غير صحيح أو بدون اجابة ( ]) عند آخر بند اجابه الطالب		

هذه المهمة، ضع علامة في المربع الموجود أسفل الصفحة ثم انتقل الى المهمة التالية .

- إذا توقف الطالب عند البند لمدة 5 ثوان.

١ + ٣ = (٤)	١١ + ٣ = (١٤)
٣ + ٢ = (٥)	١٣ + ٤ = (١٧)
٦ + ٢ = (٨)	١٦ + ٣ = (١٩)
٤ + ٥ = (٩)	٨ + ٦ = (١٤)
٣ + ٣ = (٦)	٧ + ٨ = (١٥)
٠ + ٨ = (٨)	٩ + ٧ = (١٦)
٧ + ٣ = (١٠)	٨ + ٨ = (١٦)
٢ + ٧ = (٩)	٢ + ١١ = (١٣)
٥ + ٥ = (١٠)	١٠ + ٢ = (١٢)
٢ + ٨ = (١٠)	٨ + ١٠ = (١٨)

✍ الوقت المتبقى (بالثواني)	* *
✍ ضع أشارة داخل المربع أذا توقف الاختبار نتيجة لعدم وجود اجابة صحيحة من الطالب في أول خمس بنود.	* *

60 ثانية	D3	**المهمة 4B: عملية الجمع – المستوى 2**
• إذا اخطأ الطالب في الأجابة عن أول خمسة بنود في المستوى الاول. • عند انتهاء الوقت المحدد (60 ثانية) ضمن ساعة التوقيت.	❖ ورقة وقلم إليك بعض اسئلة الجمع الاخرى . يمكنك استخدام القلم والورقة اذا شئت. ابدأ من هنا (/) غير صحيح أو بدون اجابة ([ ) عند آخر بند اجابه الطالب	
• أذا قام الطالب بأستخدام طرق غير فعالة (كاستخدام الأصابع والإشارات)، اطلب من الطالب أن يستخدم طريقة أخرى لحل المسألة. • إذا توقف الطالب عند البند لمدة 5 ثوان.	١٦ + ٣ = (١٩) ١٨ + ٧ = (٢٥) ٢٤ + ١٢ = (٣٦) ٢٢ + ٣٧ = (٥٩) ٣٨ + ٢٦ = (٦٤)	
* *	الوقت المتبقى (بالثواني)	
* *	ضع أشارة داخل المربع أذا توقف الاختبار نتيجة لعدم وجود اجابة صحيحة من الطالب في أول خمس بنود.	

المهمة 5A: عملية الطرح – المستوى 1	E2 & E1 📖	30 ثانية
إليك بعض أسئلة الطرح (مرر يدك على الأسئلة من الاعلى الى الاسفل). جد ناتج الطرح لكل مما يأتي. إذا لم تتمكن من معرفة الناتج. أنتقل الى السؤال التالي. هل أنت مستعد؟...... ابدأ من هنا (أشر الى السؤال الاول)		•عند انتهاء الوقت المحدد (30 ثانية) ضمن ساعة التوقيت. •اذا قمت بتسجيل جميع الأجابات الموجودة في أول خمسة بنود على أنها خاطئة، توقف عن إكمال هذه المهمة، ضع علامة في المربع الموجود أسفل الصفحة ثم انتقل الى المهمة التالية . •إذا توقف الطالب عند البند لمدة 5 ثوان.
(/) غير صحيح أو بدون اجابة ( ]) عند آخر بند اجابه الطالب		

٤ – ١ = (٣)	١٤ – ٣ = (١١)
٥ – ٢ = (٣)	١٧ – ٤ = (١٣)
٨ – ٢ = (٦)	١٩ – ٣ = (١٦)
٩ – ٥ = (٤)	١٤ – ٦ = (٨)
٦ – ٣ = (٣)	١٥ – ٧ = (٨)
٨ – ٠ = (٨)	١٦ – ٩ = (٧)
١٠ – ٣ = (٧)	١٦ – ٨ = (٨)
٩ – ٧ = (٢)	١٣ – ١١ = (٢)
١٠ – ٥ = (٥)	١٢ – ٢ = (١٠)
١٠ – ٨ = (٢)	١٨ – ١٠ = (٨)

الوقت المتبقى (بالثواني)	* *
ضع أشارة داخل المربع أذا توقف الاختبار نتيجة لعدم وجود اجابة صحيحة من الطالب في أول خمس بنود.	* *

<table>
<tr><td>60 ثانية</td><td>E3</td><td>المهمة 5B: عملية الطرح – المستوى 2</td></tr>
<tr><td rowspan="4">إذا اخطأ الطالب في الأجابة عن أول خمسة بنود في المستوى الاول .
عند انتهاء الوقت المحدد (60 ثانية) ضمن ساعة التوقيت.

إذا قام الطالب باستخدام طرق غير فعالة (كاستخدام الأصابع والإشارات)، اطلب من الطالب أن يستخدم طريقة أخرى لحل المسألة.
إذا توقف الطالب عند البند لمدة 5 ثوان.</td><td colspan="2">ورقة وقلم</td></tr>
<tr><td colspan="2">إليك بعض اسئلة الطرح الاخرى . يمكنك استخدام القلم والورقة اذا شئت.
ابدأ من هنا</td></tr>
<tr><td colspan="2">(/) غير صحيح أو بدون اجابة
( ]) عند آخر بند اجابه الطالب</td></tr>
<tr><td colspan="2">١٩ – ٣ = (١٦)
٢٥ – ٧ = (١٨)
٣٦ – ١٢ = (٢٤)
٥٩ – ٣٧ = (٢٢)
٦٤ – ٢٦ = (٣٨)</td></tr>
<tr><td>* *</td><td colspan="2">الوقت المتبقى (بالثواني)</td></tr>
<tr><td>* *</td><td colspan="2">ضع اشارة داخل المربع أذا توقف الاختبار نتيجة لعدم وجود اجابة صحيحة من الطالب في أول خمس بنود.</td></tr>
</table>

المهمة 6 : المسائل الكلامية

❖ عدادات، ورقة، وقلم.

لدي بعض المسائل الحسابية وسوف أطلب منك حلها. هذه بعض الأشياء التي يمكن أن تساعدك. تستطيع استعمالها إذا احتجت لها، ولكنك لست مجبراً على استعمالها. استمع جيداً لكل من هذه المسائل. سأكرر المسألة في حال احتجت إلى ذلك. جيد، لنبدأ

المسألة ١

الإجابة الصحيحة: ٤

باص فيه ستة أطفال [توقف وتحقق من الطفل]

إثنان منهم ذكور و الباقي إناث [توقف وتحقق من الطفل]

كم عدد الإناث ؟

صحيح	غير صحيح	لا إجابة

المسألة ٢

الإجابة الصحيحة: ٧

باص فيه عدد من الأطفال عند بدء الرحلة [توقف وتحقق من الطفل] ثم ركب فيه خمسة أطفال آخرين لاحقاً [توقف وتحقق من الطفل] فأصبح مجموع عدد الأطفال في الباص 12 طفلا [توقف وتحقق من الطفل] كم عدد الأطفال الذين كانوا في الباص عند بدء الرحلة ؟

صحيح	غير صحيح	لا إجابة

المسألة ٣

الإجابة الصحيحة :٣

وزعت 12 قطعة حلوى على 4 أطفال بالتساوي . [توقف وتحقق من الطفل] كم عدد قطع الحلوى لكل طفل ؟

صحيح	غير صحيح	لا إجابة

- في حال توقف الطفل عند سؤال لمدة ٥ ثواني. (ولم يحاول استعمال العدادات، أو الأصابع، أو الورقة والقلم)

أو

- في حال لم يجب الطفل عن السؤال بعد مرور ٣٠ ثانية على توجيه السؤال له.

ملاحظة: تشير عبارات" [توقف وتحقق من الطفل] في كل مسألة إلى أنك يجب أن تتأكد من فهم الطفل لما قلته قبل أن تكمل. قد تحتاج لسؤال الطفل، "هل فهمت؟"

Annex B: SSME Instruments

الأداة الخاصة بالطالب

يرجى ملاحظة أن التعليمات الخاصة بالشخص الذي يجري المقابلة مكتوبة بالخط العريض. يرجى عدم قراءة خيارات الاجوبة المعطاة للشخص الذي تقابله مالم تجد في السؤال طلبا صريحا وواضحا بذلك

	وقت البدء **(استخدم نظام 24 ساعة)**	___ : ___	
S11	تاريخ المقابلة	اليوم / الشهر / السنه	
S12	وضع المقابلة	**رفض: اشكر الطالب ثم إنهي المقابلة** .	1
		تمت المقابلة بشكل جزئي .	2
		تمت بشكل كامل .	3
S13	**هل الطالب أنثى؟**	لا .	0
		نعم .	1
S14	كم عمرك؟		
S15		العربية .	1

	ما اللغة التي تتحدث بها عادة في المنزل؟	الأنجليزية الفرنسية أخرى / حدد	. . .	2 3 4
S16	في أي صف أنت؟ **(لاحظ إذا لم يكن في الصف الثاني أو الثالث ، اشكره وأشرح له أن الاختبار لتلاميذ الصفين الثاني والثالث)**	الصف الثاني الصف الثالث	. .	2 3
S17	في أي صف كنت في العام الماضي؟ **(لا تحاول الاستعلام من خلال السؤال ما إذا كان الطالب يعيد صفه)**	الاول الثاني الثالث لاأعلم/ رفض	. . . .	1 2 3 888
S18	هل كنت في الروضة قبل المدرسة؟	لا نعم لاأعلم/ رفض	. . .	0 1 888
S19	كيف تذهب عادة الى المدرسة؟	سيرا على الأقدام بمفرده سيرا برفقة أحد الاخوة سيرا برفقة أحد زملاء المدرسة سيرا برفقة أحد أفراد العائلة البالغين بواسطة باصات النقل العام وبمفردي	. . . . .	1 2 3 4 5

S19a		أخرى / حدد .	6
		لاأعلم / رفض	888

S20	**رجاءً هل بإمكاني رؤية كراسة اللغة العربية الخاصة بك؟ إذا كانت الاجابة نعم ، يرجى ملاحظة عدد الصفحات المستخدمة في الكراسة. (أعط بعض الملاحظات الايجابية بخصوص أداء الطالب لا تعلّق على الدرجات المنخفضة للطالب أوملاحظات المعلم)**	لايوجد لدى الطالب كراسة. إنتقل إلى قسم 22 . →	0
		ربع الكراسة .	1
		نصف الكراسة .	2
		ثلاثة أرباع الكراسة .	3
		كل صفحات الكراسة .	4
		لاأعلم / رفض .	888
S21	**كم مرة صحح المعلم الكراسة ؟**	لم يصحح إطلاقا .	0
		أحيانا .	1
		غالبا .	2
		دائما .	3
S22	ماذا يفعل المعلم حينما يكون أداؤك جيدا في الدرس أو الامتحان؟	لاشيء .	0
		يمتدحني .	1
		يمنحني جائزة .	2

		يعفيني من الاعمال الروتينية أو الواجب البيتي. .	3
S23		أشياء أخرى / حدد .	4
		لا أعلم / رفض .	888
S24	مإذا يفعل المعلم عادة حينما لاتتمكن من إجابة السؤال أو عندما تكون إجابتك خاطئة؟	يقوم المعلم بتلخيص/ إعادة شرح السؤال .	1
		يقوم المعلم بتشجيع الطالب على المحاولة مرة أخرى .	2
		يقوم المعلم بسؤال طالب آخر .	3
		يقوم المعلم بإعادة طرح السؤال .	4
		يصحح المعلم الإجابة لكنه لا يوبخ الطالب/ة .	5
		يقوم المعلم بتوبيخ الطالب/ة .	6
		يقوم المعلم بطرد الطالب/ة خارج الصف .	7
		يقوم المعلم بضرب الطالب .	8
		يوقف الطالب في زاوية الصف .	9
S25		أخرى / حدد .	10
		لا أعلم/ رفض .	888
S26			

	هل كان لديك واجب بيتي في الأسبوع الماضي؟	لا. إنتقل إلى قسم 27 نعم لاأعلم / رفض	. → . .	0 1 888
S27	كم يوم خلال الأسبوع الماضي كان عندكم واجب بيتي؟	ولا يوم يوم واحد يومان ثلاثة أيام أربعة أيام خمسة أيام لاأعلم / رفض	. . . .	0 1 2 3 4 5 888
S28	هل تابع المعلم على الواجب البيتي خلال الاسبوع الماضي؟	لا نعم لاأعلم / رفض	. . .	0 1 888
S29a S29b S29c S29d S29e S29h	إذا كنت بحاجة الى من يساعدك بأداء الواجب البيتي ، من الذي يساعدك بذلك في البيت؟ **ضع دائرة حول كل الإجابات المطابقة**	لا أحد أخ/ أخت أم/ أب جدة /جد أخرى / حدد لاأعلم/ رفض	. . . . . .	1 1 1 1 1 888

S30	هل تناولت أية وجبة طعام قبل حضورك الى المدرسة هذا اليوم؟	لا . نعم . لاأعلم / رفض .	0 1 888
S31	هل تغيبت عن المدرسة خلال الأسبوع الماضي؟ إذا **كانت الاجابة نعم** ، فما سبب الغياب؟	كلا ، لم يحصل أن تغيبت في الاسبوع الماضي . نعم ، لأنني كنت مريضا . نعم ، لأنني كنت مضطرا لأداء عمل آخر في المنزل . نعم ، لأنني كنت مضطرا للعناية بأحد المرضى من أفراد عائلتي . نعم ، لأنني لم أجد وسيلة نقل . نعم ، لأن الجو كان سيئاً . نعم ، بسبب حالة طارئة . نعم ، لأنه من الخطر الشديد الذهاب الى المدرسة . نعم ، لأنه من الخطر الشديد التواجد في المدرسة . نعم, لأنني لم استيقظ مبكرا .	0 1 2 3 4 5 6 7 8 9

S31a		نعم ، لأنني كنت مضطرا لرعاية أحد أخواني .	10
		نعم ، لأنني لم أجد زي المدرسة أو أن زي المدرسة لم يكن جاهزا ذلك اليوم .	11
		نعم ، لأن المعلمين أو التلاميذ يعاملونني بطريقة سيئة .	12
		نعم، لسبب آخر (حدد) .	13
		لاأعلم/ رفض .	888
S32	هل حصل وأن تأخرت عن المدرسة في أي يوم من أيام الاسبوع الماضي؟**(إذا كان الجواب نعم)** لماذا تأخرت؟	كلا ، لم يحصل أن تأخرت في الأسبوع الماضي	0
		نعم ، لأنني كنت مريضا .	1
		نعم ، لأنني كنت مضطرا لأداء عمل آخر في المنزل .	2

3	. نعم ، لأنني كنت مضطرا للعناية بأحد المرضى من أفراد عائلتي			
4	. نعم ، لأنني لم أجد وسيلة نقل			
5	. نعم ، لأن الجو كان سيئا			
6	. نعم ، بسبب وجود حالة طارئة			
7	. نعم ، لأنه من الخطر الشديد الذهاب الى المدرسة			
8	. نعم ، لأنه من الخطر الشديد التواجد في المدرسة			
9	. نعم, لأنني لم استيقظ مبكرا			
10	. نعم ، لأنني كنت مضطرا لرعاية أحد أخواني			
11	. نعم ، لأنني لم أجد زي المدرسة أو أن زي المدرسة لم يكن جاهزا ذلك اليوم			
12	. نعم ، لأن المعلمين أو التلاميذ يعاملونني بطريقة سيئة			
13	. نعم، لسبب آخر (حدد)		S33	
888	. لاأعلم/ رفض			
0	. لا **إذا كان الجواب كلا اذهب الى الفقرة S33**	في آخر مرة حصلت فيها على درجة جيدة في امتحان أو واجب معين في المدرسة ، هل علم والداك أو ولي أمرك بتلك الدرجة الجيدة؟	S34	
1	. نعم			

		لاأعلم/ رفض .	888
S35 S35a	إذا كان الجواب نعم ماذا فعلوا؟	لم يفعلوا أي شيء . قدموا لي التهنئة أو قاموا بتشجيعي . قاموا بمعانقتي / قبلوني . أعطوني هدية . أخرى/ حدد . لاأعلم/ رفض .	1 2 3 4 5 888
S36	هل لديك وقت مخصص للقراءة في صفك الدراسي أو في مكتبة المدرسة؟	لا . نعم . لاأعلم/ رفض .	0 1 888
S37	بعيدا عن كتب المدرسة هل لديك كتب أخرى تقوم بقراءتها في المنزل؟	لا . نعم . لاأعلم/ رفض .	0 1 888
S38	كم مرة تقرأ عادة بصوت مرتفع لشخص آخر في بيتك؟	أبدا لم أفعل . أحيانا . مرة واحدة في الاسبوع . مرتين أو ثلاث في الاسبوع . يوميا .	0 1 2 3 4

		لاأعلم / رفض .		888
S39	هل هناك شخص في منزلك يقوم بالقراءة لك؟ إذا كان الجواب نعم ، كم مرة يقرأ لك؟	لايوجد . أحيانا . مرة واحدة في الاسبوع . مرتين أو ثلاثة في الاسبوع . يوميا . لاأعلم/ رفض .		0 1 2 3 4 888
S40	**أقرأ الفقرات التالية للتلاميذ (**هل تمتلك عائلتك الاشياء التالية **)**			
S41	مذياع	لا . نعم .		0 1
S42	تلفزيون	لا . نعم .		0 1
S43	دراجة هوائية	لا . نعم .		0 1
S44	سيارة	لا . نعم .		0 1
S45	كهرباء	لا . نعم .		0 1
S46	مطبخ داخل منزلك	لا . نعم .		0 1
S47	حاسوب	لا . نعم .		0 1
ما نوع المرفق الصحي في منزلك؟ **اقرا الخيارات**				
S48	حمامات خارجية غير مرتبطة بالصرف الصحي	لا . نعم .		0 1
S49	حمامات خارجية مرتبطة بالصرف الصحي	لا .		0

1	.	نعم		
0 1	. .	لا Yes نعم	حمامات داخلية مرتبطة بالصرف الصحي	S50
ما نوع غاز\ فرن الطبخ المستخدم لإعداد الوجبات في منزلك؟ وهل تستخدمه عائلتك في العادة؟ **اقرا الخيارات .**				
0 1	. .	لا نعم	حطب للطبخ	S51
0 1	. .	لا نعم	موقد على الحطب	S52
0 1	. .	لا نعم	طباخ على الغاز أو الكهرباء	S53
من اين تحصل على مياه الاستحمام في منزلك؟				
0 1	. .	لا نعم	نهر/ مياه ينابيع	S54
0 1	. .	لا نعم	خزان / بئر	S55
0 1	. .	لا نعم	حنفية مياه أو أنبوب مياه داخل منزلك	S56
0 1	. .	لا نعم	صهريج مياه	S57
			أخرى	S37.17
0 1 2	. . .	لا القراءة فقط الرياضيات فقط	هل تاخذ دروس خصوصية في القراءة أو الرياضيات خارج المدرسة؟	S38

3 . كلاهما 888 . لاأعلم/ رفض			
: ________________	وقت انتهاء التقييم **(أستخدم نظام 24 ساعة)**	S39	
شكرا جزيلا			

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الاداة الخاصة بمدير المدرسة

	وقت بدء المقابلة :	____ : ____	
HT9	تاريخ المقابلة :	اليوم الشهر السنة	
HT10	حالة المقابلة:	رفض المدير المقابلة. أشكره وانهي المقابلة → .	1
		تمت بصورة جزئية .	2
		تمت بصورة كلية .	3
HT11	ما وظيفتك في المدرسة؟	المدير .	1
		مساعد المدير .	2

HT12	هل مدير المدرسة أنثى؟	لا نعم	. 0 . 1
HT13	ما عدد سنوات عملك كمدير مدرسة؟	عدد السنين	
HT14	ما أعلى مؤهل حصلت عليه؟	الثانوية دبلوم بكالوريوس دبلوم عالي ماجستير دكتوراه أخرى/ حدد	. 1 . 2 . 3 . 4 . 5 . 6 . 7
HT14.01		لااعلم/ رفض	. 888
HT15	هل تلقيت تدريبا متخصصا او دورات في مجال الادارة المدرسية؟	لا نعم لا- أذهب الى 17 →	. 0 . 1
		إذا كان الجواب نعم اعط مثال	
		لاأعلم / رفض	. 888

HT16	هل تمكنت من تطبيق ما تعلمته في هذه الدورات \ التدريب ؟	لا	.	0
		نعم ، أحيانا	.	1
		نعم ، عادة	.	2
		نعم ، دائما	.	3
HT16.01		إذا كان الجواب (نعم) أعط مثالا عن كيفية استخدام هذا التدريب		
		لاأعلم / رفض	.	888
HT17	هل تستفيد المدرسة من برامج تمويل خاصة أو تتلقى دعما فنيا خارجيا لا يتوفر لمدارس أخرى؟	لا	.	0
		نعم	.	1
		إذا كان الجواب نعم, أشرح		
		لاأعلم / رفض	.	888
HT18				

	خلال الشهر المنصرم كم مرة غادرت المدرسة أثناء دوام المدرسة؟	عدد الايام		
HT19	ما الصفوف التي تتضمنها هذه المدرسة هذا العام؟ (ضع دائرة حول كل الاجابات المطابقة)			
HT19.01		روضة أطفال	.	1
HT19.02		الاول	.	1
HT19.03		الثاني	.	1
HT19.04		الثالث	.	1
HT19.05		الرابع	.	1
HT19.06		الخامس	.	1
HT19.07		السادس	.	1
HT19.08		السابع	.	1
HT19.09		الثامن	.	1
HT19.10		التاسع	.	1
HT19.11		العاشر	.	1
HT19.12		الحادي عشر	.	1
HT19.13		التوجيهي	.	1
		أخرى/ حدد	.	1
HT20	في أي تاريخ بدأت الدراسة في هذا العام الدراسي؟	سنة سنة شهر شهر يوم يوم		
HT21	منذ بداية العام الدراسي الحالي (باستثناء العطل	لا	.	0
		→ 23 لا - أذهب الى		

	الرسمية) هل أغلقت المدرسة أبوابها أو توقف الدوام فيها خلال إيام الدوام الرسمي؟	نعم لاأعلم / رفض	. .	1 888

HT22	إذا كان الجواب نعم ، كم عدد الايام التي أغلقت فيها المدرسة أبوابها أو توقفت الدراسة فيها؟	عدد الايام s [ ][ ] لاأعلم / رفض	.	888
HT23	هل تشترك مدرستكم في المبنى مع مدرسة اخرى؟	لا لا - أذهب الى 25 → نعم لاأعلم / رفض	. . .	0 1 888
HT24	إذا كان الجواب (نعم) كم مدرسة تشغل هذه البناية بالإضافة الى مدرستكم؟	مدرستين لاأعلم / رفض	. .	1 888
HT25	متى يبدأ اليوم الدراسي ؟ استخدم طريقة 24 ساعة	____ : ____ لااعلم / رفض	.	888

HT26	ما وقت أنتهاء اليوم الدراسي لمدرستك؟ استخدم طريقة 24 ساعة	لاأعلم / رفض	___ : ___ . 888

HT27 HT27.01 HT27.02	يعني أن اليوم الدراسي (الدوام) يستمر لـ س من الساعات و ص من الدقائق ، هل هذا صحيح؟ إحسب فترة الدوام المدرسي ومن ثم اكد المعلومات مع المدير	لاأعلم / رفض	=(س) ☐☐ ساعات =(ص) ☐☐ دقائق . 888
HT28 HT28.01 HT28.02	ما المدة المخصصة لطابور الصباح والفرصة في كل يوم دراسي؟	الوقت المخصص لطابور الصباح الوقت المخصص للفرصة	☐☐ دقائق ☐☐ دقائق

		لاأعلم / رفض .	888
HT29 HT29.01 HT29.02	كم عدد الطلاب الذكور المسجلين في هذه المدرسة حاليا؟ وكم عدد الطالبات المسجلات في المدرسة حاليا؟	عدد الطلاب الذكور عدد الطلاب لاأعلم / رفض .	 888

HT30 HT30.01 HT30.02	كم عدد المعلمين الذكور المعينين في المدرسة حاليا؟ وعدد المعلمات حاليا؟	عدد المعلمين عدد المعلمات لاأعلم / رفض .	 888
HT31 HT31.01 HT31.02	في هذه المدرسة؟ كم عدد معلمي الصف الثاني كم عدد معلمي الصف الثالث في هذه المدرسة؟	عدد معلمي الصف الثاني عدد معلمي الصف الثالث لاأعلم / رفض .	 888
HT32	كم عدد المعلمين الذين تغيبوا عن الدوام يوم أمس		

	أو أخر يوم دراسي؟	عدد المعلمين الغائبين لاأعلم / رفض .	[ ][ ] 888
HT33	كم عدد المعلمين ممن هم حاليا في اجازة أو غياب بعذر؟	عدد المعلمين الغائبين بعذر لاأعلم / رفض .	[ ][ ] 888
HT34	كم عدد المعلمين الذين وصلوا متأخرين للمدرسة اليوم؟ (بعد 15دقيقة من قرع الجرس	عدد المعلمين المتأخرين لاأعلم / رفض .	[ ][ ] 888

HT35	مإذا تفعل للصف الذي يكون معلمه غائبا؟ (لاتقرا الاجابات على المدير، فقط أشر الى إجابة المدير	أترك الصف دون معلم .	1
		أكلف معلم آخر ليحل محل المعلم الغائب .	2
		أجمع طلبة الصف مع طلبة صف آخر .	3
		طلب معلم على حساب التعليم الإضافي .	4
		أصرف طلبة الصف من المدرسة لذلك اليوم .	5

HT35.01		اخرج الطلاب الى الساحة	6 .
		توزيع طلاب الشعبة على باقي الشعب	7 .
		أخرى ,	8 .
		أشرح ______________________________	
		لاأعلم / رفض	888 .
سأسألك الان بعض الاسئلة حول سجلات المدرسة			
HT36	هل تحتفظ بسجلات لحضور المعلمين ؟	لا	0 .
		لا - أذهب الى 39 →	
		نعم	1 .
		لاأعلم / رفض	888 .
HT37	هل بإمكاني رؤية سجل حضور المعلمبن من فضلك؟	لم يكن السجل متوفرا لرؤيته	1 .
		لا - أذهب الى 39 →	
		تكمل سجلات الحضور يوميا	2 .
		تكمل سجلات الحضور أسبوعيا	3 .
		تكمل سجلات الحضور كل أسبوعين	4 .
		تكمل سجلات الحضور شهريا	5 .
		أخرى	6 .

HT38	دون تاريخ أحدث إدخال لسجل حضور المعلمين واستخدم جهاز الأيباد لتصوير السجل	Year / Month / Day	
HT39	هل يتم تسجيل حضور الطلاب لكل الصفوف في المدرسة؟ إذا كان الجواب نعم كم مرة عادة يحدث ذلك؟	لا لم يحدث ذلك أبدا .	0
		نعم مرة واحدة بالسنة .	1
		نعم مرة واحدة كل شهر أو شهرين .	2
		نعم مرة كل شهر .	3
		نعم مرة كل أسبوعين .	4
		نعم مرة كل أسبوع .	5
		نعم يوميا .	6
		لاأعلم / رفض .	888
HT40	ما الاجراءات التي تتخذها عندما تكون غير راض عن اداء احد المعلمين لديك؟ لا تقرأ الخيارات المعطاة، ضع فقط دائرة حول الاجابة المقدمة من المدير	لا افعل شيئا	0
HT40.01		احل المشكلة بشكل مباشر مع المعلم المعني .	1
HT40.02		أستجوب المعلم المعني .	1

HT40.03		أستدعي له المشرف التربوي او الإدارة في الوزارة .	1
HT40.04		أنسب حضور المعلم لتدريب إضافي .	1
HT40.05		اخرى .	1
		في حال اخرى ، اشرح	
		______________________________	
		لاأعلم / رفض	888
HT41	كيف تحدد ما إذا كان الطلبة يحرزون تقدما أكاديميا؟ { لاتقرأ الاجوبة المعطاة على المدير، ضع فقط دائرة حول الاجابة المطابقة}		
HT41.01		بالملاحظة الصفية .	1
HT41.02		بمراقبة نتائج امتحانات الطلاب التي يجريها المعلمون .	1
HT41.03		بتقييم الطلاب شفويا .	1
HT41.04		بتفحص الواجبات البيتية المعطاة للطلاب .	1
HT41.05		بدراسة التقاير التي يقدمها المعلمون عن مستوى الطلاب .	1
HT41.06		بدراسة نتائج نهاية الفصل الدراسي .	1
HT41.07		بالتغذية الراجعة من أولياء الأمور .	1
HT41.08		بالتغذية الراجعة من مشرف المدرسة التربوي .	1

HT41.09		أخرى/ حدد	1
		لاأعلم / رفض	888
HT42	في بداية العام الدراسي وحسب الخطة الحالية لوزارة التربية، هل حصلت مدرستك على العدد الكافي من الكتب المدرسية لكل طلابك؟	لا	0
		نعم	1
		لا - أذهب الى 44 →	
		لاأعلم / رفض	888
HT43	إذا كان الجواب لا، كم كانت الفترة الزمنية لحين تسلمكم الكتب الناقصة؟	لم أستلم الكتب على الاطلاق	0
		سنة واحدة	1
		أربعة الى خمسة شهور	2
		شهرين الى ثلاثة	3
		شهر واحد	4
		أسبوعبن أو أقل	5
		لاأعلم / رفض	888
HT44	هل لديكم مكتبة في المدرسة؟	لا	0
		لا - أذهب الى 48 →	
		نعم	1
		لاأعلم / رفض	888
HT45		لا	0

	هل الكتب في هذه المكتبة متاحة للطلاب؟	لا - أذهب الى 48 → نعم . لاأعلم / رفض .	 1 888
HT46	كم مرة يمكن للطلاب آن يأخذوا كتبا من المكتبة؟	شهريا . أسبوعيا . يوميا . لاأعلم / رفض .	1 2 3 888
HT47 HT47.01 HT47.02 HT47.03 HT47.04 HT47.05 HT47.06	أين يستطيع الطلاب قراءة كتب المكتبة؟ لا (تقرأ الاجوبة فقط ضع دائرة حول الاجابة المطابقة)	في مكتبة المدرسة . في الصف . في المنزل . في اماكن أخرى في المدرسة . لاأعلم / رفض .	1 1 1 1 888
HT48	بأي صف تتوقع أن يكون الطلاب قادرين على قراءة اللغة العربية بطلاقة؟ (لاتقرأ الخيارات فقط اشر الى إجابات المدير)	الصف الاول . الصف الثاني . الصف الثالث . الصف الرابع او أعلى . لاأعلم / رفض .	1 2 3 4 888
HT49	بأي صف تتوقع أن يكون الطلاب قادرين على الكتابة باللغة العربية؟ (لاتقرأ الخيارات فقط اشر الى	الصف الاول . الصف الثاني . الصف الثالث .	1 2 3

4 888	. الصف الرابع او أعلى . لاأعلم / رفض		إجابات المدير)	
0 1 888	. لا → 53 لا - أذهب الى . نعم . لاأعلم / رفض		هل يوجد مجلس أولياء أمور في المدرسة؟	HT50
0 1 2 3 4 888	. لم يجتمع على الاطلاق . مرة في السنة . مرة كل شهرين الى ثلاثة . مرة كل شهر . مرة كل أسبوع . لاأعلم / رفض		كم مرة اجتمع هذا المجلس في العام الدراسي الماضي؟	HT51
0 1 888	. لا . نعم . لاأعلم / رفض		بشكل عام ، هل انت مرتاح لمستوى الدعم الذي يقدمه مجلس الآباء والمعلمين للمدرسة؟	HT52
0 1 888	. لا . نعم . لاأعلم / رفض		بشكل عام ، هل انت مرتاح لمستوى متابعة الاباء لأعمال أبنائهم المدرسية؟	HT53
				HT54

	خلال السنة الماضية كم مرة قام مشرف المرحلة بزيارة دعم أو تفتيش لمدرستك؟	أبدا ولا مرة	.	0
		لا - أذهب الى 56 →		
		مرة واحدة	.	1
		مرة كل شهر	.	2
		مرة كل أسبوع	.	3
		لآأعلم	.	888
HT55	ما النشاطات التي يركز عليها مشرف المرحلة خلال زيارته لمدرستك؟ (لاتقرا الاجابات فقط ضع دائرة حول الاجابة المطابقة)			
HT55.01		يتفقد فيما إذا كانت السجلات المالية للمدرسة متوفرة	.	1
HT55.02		يتفقد سجلات حضور الطلاب	.	1
HT55.03		يتفقد دفاترتحضير الدروس	.	1
HT55.04		يتفقد السجلات الشخصية للمعلمين	.	1
HT55.05		يتفقد سجلات تقدم الطلاب	.	1
HT55.06		يتفقد توفر المياه	.	1
HT55.07		يتفقد فيما إذا كان هنالك مرافق صحية متوفرة للطلاب والطالبات	.	1
HT55.08		يجلس في الصف ويراقب الدرس	.	1

HT55.09		يتفحص الإمتحانات وعملية التقييم	.	1
HT55.10		يوجه النصح حول النظام والانضباط لدى الطلاب	.	1
HT55.11		يقدم النصح حول قياس وتقييم الطلاب	.	1
HT55.12		يقدم النصح للمدير حول إدارة المدرسة	.	1
HT55.13		يقدم نصائح حول التدريس للهيئة التدريسية	.	1
HT55.14		يقدم معلومات تتعلق باية افكار جديدة في المناهج	.	1
HT55.15		يوفر معلومات حول فرص التطوير المهني	.	1
HT55.16		يوجه النصح حول الوضع الصحي والتعقيم	.	1
HT55.17		أخرى/ حدد	.	1
		لاأعلم/ رفض	.	888
HT56	هل تقوم مدرستك بتوفير وجبات طعام مجانية للطلاب؟	لا	.	0
		لا - أذهب الى 58 →		
		نعم	.	1

		لاأعلم / رفض	888
HT57	ما نسبة الطلاب الذين يحصلون على وجبات مجانية؟	عدد قليل	1
		ربع الطلبة	2
		نصف الطلبة	3
		معظمهم	4
		جميعهم	5
		لاأعلم / رفض	888

سأسألك الان عدد من الأسئلة عن مستوى السلامة في مدرستك

HT58	هل هناك أي شيء في بنايات المدرسة يشكل خطر على سلامة الطلاب؟ إذا كان الجواب نعم اشرح من فضلك	لا	0
58.01		نعم	1
		أشرح	
		لاأعلم / رفض	888
HT59	هل تشعر بالامان داخل مدرستك؟	لا	0
		نعم	1
		لا - أذهب الى 61 →	
		لاأعلم / رفض	888
HT60	إذا كان الجواب لا / اشرح كيف ذلك رجاء	______________________	

HT61	هل تشعر أن المعلمين يكونون بأمان داخل المدرسة؟	لا	.	0
		نعم	. 63 أذهب الى →	1
				لا -
		لاأعلم / رفض	.	888
HT62	إذا كان الجواب لا / اشرح كيف ذلك رجاء	______		
HT63	هل تعتقد ان الطلاب يشعرون بأمان في مدرستهم؟	لا	.	0
		نعم	.	1
			→ لا - أذهب الى	
		لاأعلم / رفض	.	888
HT64	ا.إذا كان الجواب لا / اشرح كيف ذلك رجاء	______		
HT65	هل تعتقد ان الوزارة متجاوبة لطلباتك للدعم؟	ليست كذلك على الاطلاق	.	0
		احيانا هي كذلك	.	1
		دائما هي كذلك	.	2
		لاأعلم / رفض	.	888
HT66				
66.01	قدم مقترح رئيسي لغرض تحسين أداء نظام	______		(1)

		المدارس الأساسية؟	
	___ : ___	وقت الانتهاء {أستخدم طريقة 24 ساعة}	
	شكرا جزيلا		

الاداة الخاصة بالمعلم

ملاحظة: إن كافة التعليمات الخاصة بالمقيّم مكتوبة بالخط العريض . لاتقرأ الاجوبة على الشخص الذي تقابله مالم يكن هناك نص صريح وواضح يطلب منك بذلك

	وقت البدء **(استخدم نظام 24 ساعة)**	: ______________	
T10	تاريخ المقابلة	اليوم / الشهر / السنة	
T11	وضع المقابلة	**رفض /انهي المقابلة** تمت بشكل جزئي تمت بشكل كامل	1 . 2 . 3 .
T12	هل المعلم الذي تتم مقابلته انثى ؟	لا نعم	0 . 1 .

T13	ما لغتك الأم؟	العربية الإنجليزية الفرنسية أخرى / حدد	1 2 3 4
T14 T14.01	ما أعلى مؤهل حصلت عليه؟	دبلوم بكالوريوس دبلوم عالي ماجستير دكتوراه أخرى/ حدد لااعلم/ رفض	1 2 3 4 5 6 888
T15	خلال التدريب الذي سبق التعيين ، هل تلقيت تدريبا متخصصا في كيفية تدريس القراءة؟	لا نعم لااعلم/ رفض	0 1 888
T16	اثناء الخدمة ، هل اشتركت في اية دورات تدريبية في موضوع كيفية تدريس القراءة؟	لا نعم لااعلم/ رفض	0 1 888

0 . 1 . 888 .	لا نعم لااعلم/ رفض	خلال التدريب الذي سبق التعيين ، هل تلقيت تدريبا متخصصا في موضوع كيفية تدريس الرياضيات؟	T17
0 . 1 . 888 .	لا نعم لااعلم/ رفض	اثناء الخدمة ، هل اشتركت في اية دورات تدريبية في كيفية تدريس الرياضيات؟	T18
1 . 1 . 1 .	الصف الاول الصف الثاني الصف الثالث	ما الصف أو الصفوف التي تقوم بتدريسها في هذه الغرفة الصفية خلال هذه السنة؟ **أشر على كل الاجابات المطابقة**	T19 T19.01 T19.02 T19.03
888 .	لا نعم ، مراحل متعددة لااعلم/ رفض	اذا اشرت على اكثر من صف واحد، إسأل (للتأكد) بقولك: اذن صفك مجمع لطلاب من عدة صفوف	T20
			T21

	هل تحتفظ بسجل لحضور وغياب التلاميذ؟	لا نعم	→ بحال كانت الإجابة لا انتقل للسؤال 24	0 1 .
T22	هل بإمكاني رؤية سجل حضور التلاميذ للأسبوع الماضي لطفا؟ **(إستخدم جهاز الأيباد لتصوير ما دون في السجل الأسبوع الماضي)**	لم يكن السجل متوفرا تستكمل سجلات حضور التلاميذ يوميا سجلات حضور التلاميذ اسبوعيا تستكمل سجلات حضور التلاميذ كل اسبوعين تستكمل سجلات حضور التلاميذ شهريا أخرى	تستكمل	1 . 2 . 3 . 4 . 5 . 6 .
T23	**سجّل تاريخ آخر مرة تم فيها تدوين حضور الطلاب**		اليو م [ ][ ] الشهر [ ][ ] السنة [ ][ ]	
T24	ما عدد الطلاب الذكور في هذا الصف؟	لااعلم/ رفض	[ ][ ][ ]	888 .
T25	ما عدد الطالبات الإناث في هذا الصف؟		[ ][ ][ ]	

888	.	لااعلم/ رفض		
888	.	طلاب ذكور لااعلم/ رفض	ما عدد الطلاب الذكور في الصف ممن هم من الراسبين من العام الماضي؟	T26
888	.	طالبات بنات لااعلم/ رفض	ما عدد الطالبات في الصف ممن هم من الراسبات من العام الماضي؟	T27
888	.	لا أعلم / رفض	في الايام الاعتيادية كم يبلغ عدد الغياب من الطلاب؟	T28
888	.	لاأعلم / رفض	في الايام الاعتيادية كم عدد الطلاب الذين يأتون متأخرين؟ **{تعريف كلمة متأخر هو الطالب الذي يحضر متأخرا على الاقل 15 دقيقة بعد بداية الدرس الاول}**	T29
0 1	. .	لا نعم، مرة في الأسبوع	هل تتعاون مع زملائك في وضع خطة الدرس؟ ذا كان الجواب نعم ، كم مرة يحصل ذلك؟	T30

2	.	نعم, 2-4 مرات في الاسبوع		
3	.	نعم, خمس مرات في الاسبوع		
4	.	نعم, مرة كل أسبوعين		
5	.	نعم, شهريا		
888	.	لاأعلم/ رفض		

T31	هل يقوم المدير او مساعده بتدقيق خطط الدروس؟	لا . → **أذهب الى T33** نعم . لاأعلم/ رفض . → **أذهب الىT33**	0 1 888
T32	اذ كان الجواب نعم، كم مرة يحدث ذلك عادة؟	مرة كل سنة . مرة كل شهرين أو ثلاثة . مرة كل شهر . مرة كل أسبوعين . مرة كل أسبوع . يوميا . لاأعلم/ رفض .	1 2 3 4 5 6 888
T33	هل ترى ان الكتب المدرسية التي توزعها الوزارة مفيدة؟	لا ليست مفيدة . مفيدة على نحو معتدل . مفيدة جدا . لاأعلم/ رفض .	0 1 2 888
T34	من تستشير عند حاجتك للمساعدة في مجال التدريس؟	لاأحتاج الى مساعدة أبدا . لايوجد شخص أطلب منه المساعدة . أنظم أجتماعات مع المعلمين . أناقش الامر عرضيا مع المعلمين .	0 1 2 3

T34.01		المدير مساعد المدير أطلب النصح من المشرف التربوي أو متخصص في المادة؟ أخرى/ حدد لاأعلم / رفض	4 . 5 . 6 . 7 . 888 .
T35	كم مرة يقوم المدير أو مساعده بملاحظتك أثناء التدريس؟	لا يقوم إطلاقا مرة كل سنة مرة كل شهرين أو ثلاثة مرة كل شهر مرة كل أسبوعين مرة كل أسبوع يوميا لاأعلم/ رفض	0 . 1 . 2 . 3 . 4 . 5 . 6 . 888 .
T36	منذ بدء العام الدراسي الحالي ، هل قام أي مشرف مرحلة بزيارة المدرسة؟ اذا كان الجواب نعم ، كم مرة؟	لم يقم إطلاقا → **أذهب الى T41** مرة كل سنة مرة واحدة كل فصل دراسي مرة كل شهرين أو ثلاثة مرة كل شهر مرة كل أسبوعين مرة كل أسبوع لاأعلم/ رفض → **أذهب الى T41**	0 . 1 . 2 . 3 . 4 . 5 . 888 .
	أود أن اسألك ماذا فعل مشرف المرحلة اثناء زيارته للمدرسة؟		

T37	هل قدم مشرف المرحلة ارشادات ونصائح حول نظام الإنضباط المدرسي ؟	لا نعم لاأعلم/ رفض	. . .	0 1 888
T38	هل قام مشرف المرحلة بتقديم النصح حول كيفية تقييم أو قياس اداء الطلاب؟	لا نعم لاأعلم / رفض	. . .	0 1 888
T39	هل قدم مشرف المرحلة ارشادات و نصائح حول أساليب التدريس؟	لا نعم لاأعلم / رفض	. . .	0 1 888
T40	هل قدم مشرف المرحلة معلومات أو ارشادات كرد على سؤال طرحته عليه؟	لا نعم لاأعلم / رفض	. . .	0 1 888
T41 T41.01 T41.02 T41.03 T41.04 T41.05 T41.06 T41.07 T41.08	كيف تقوم بقياس مدى التقدم الأكاديمي لطلابك؟ **لاتقرأ الاجابات. ضع دائرة حول الاجابة المطابقة**	امتحانات مقالية\كتابية تقييم شفهي بحوث ومشاريع واجب بيتي المشاركة والنقاش أوراق العمل تقييم نهاية الفصل أخرى/ حدد	. . . .	1 1 1 1 1 1 1 1

T42 T42.01 T42.02 T42.03 T42.04 T42.05	كيف تستخدم نتائج الأمتحانات الكتابية والشفهية في تدريسك؟ **لا تقرأ الخيارات ، فقط ضع دائرة حول الاجابات الملائمة**	وضع علامات للطلاب . أقيم مستوى فهم الطلاب للمادة . تخطيط أنشطة التدريس . تكييف اسلوب التدريس ليتلائم مع إحتياجات الطلاب . أخرى / حدد . لاأعلم / رفض .	1 1 1 1 1 888
T43 T43.01 T43.02 T43.03 T43.04 T43.05 T43.06 T43.07 T43.08	كيف تقوم بتدريس الطلاب الضعفاء في صفك؟ **لا تقرأ الخيارات ، فقط ضع دائرة حول الإجابات المعطاة**	لا اعاملهم بشكل مختلف . اركز على الطالب الاضعف . اجري اختبارات يومية . اشجعهم . اتواصل مع أولياء أمورهم بشكل مستمر . تدعيم الطالب الضعيف بآخر قوي . اتعاون مع معلمين آخرين . انقلهم إلى غرفة المصادر . اخرى ، وضح . لاأعلم / رفض	0 1 1 1 1 1 1 1 1 888
T44	كيف تتعامل مع الطلبة المشاكسين في الصف؟ **لا تقرأ الخيارات ، فقط ضع دائرة حول الاجابات المعطاة**	لا افعل شيئا / اتجاهلهم .	0

1	.	الاتصال باولياء امورهم		T44.01
1	.	اتحدث مع المشاكسين واقدم لهم النصح		T44.02
1	.	اعطيهم المزيد من الواجبات البيتية		T44.03
1	.	اقوم بضبطهم		T44.04
1	.	استخدم عقوبات بدنية		T44.05
1	.	اخرى ، وضح		T44.06
888	.	لاأعلم / رفض		
0 1 2 3 888	. . . . .	لا أحد إطلاقا بعضهم غالبيتهم كلهم لاأعلم / رفض	كم عدد الأباء أو أولياء الامور الذين يتابعون الواجب البيتي للطلاب؟	T45
0 1 888	. . .	لا نعم لاأعلم / رفض	بشكل عام , هل أنت راضٍ عن مشاركة الأباء لأبناهم في واجباتهم الدراسية؟	T46
1 2 3 4 888	. . . . .	الصف الاول الصف الثاني الصف الثالث الصف الرابع او أعلى لاأعلم / رفض	بأي صف تتوقع أن يتمكن الطلاب من القراءة باللغة العربية بطلاقة؟ **(لاتقرأ الخيارات فقط أشر على الاجابات التي يقدمها المعلم)**	T47
1	.	الصف الأول		T48

	في أي صف تعتقد أنه من المناسب للأطفال أن يبدأوا الكتابة باللغة العربية؟ لاتقرأ الاجابات فقط اشر على إجابة المعلم.	الصف الثاني الصف الثالث الصف الرابع أو أعلى لاأعلم / رفض		2 . 3 . 4 . 888 .
الأن سوف اسألك عدد من الاسئلة حول السلامة في مدرستك				
T49	هل تشعر بالأمان في مدرستك؟	لا نعم لاأعلم / رفض	→ اذهب الى 51	0 . 1 . 888 .
T50	إذا كان الجواب كلا ، اشرح رجاء	___________________________		
T51	هل تشعر ان التلاميذ يشعرون بالأمان في المدرسة؟	لا نعم لاأعلم / رفض	→ اذهب الى 53	0 . 1 . 888 .
T52	إذا كان الجواب كلا ، اشرح رجاء	___________________________		
T53	هل تستلم عادة راتبك في موعده المحدد؟	لا نعم لاأعلم / رفض		0 . 1 . 888 .

T54	وقت الانتهاء **(استخدم نظام 24 ساعة)**	___ : ___
شكرا جزيلا		

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الاداة الخاصة الملاحظة المدرسية

SOB8	وقت البدء (أستخدم نظام ال 24 ساعة)	: ______________
SOB9	تاريخ الملاحظة	M M D D
SOB10	وضع الملاحظة المدرسية	رفض، انـهي الملاحظة . تمت بشكل جزئي . تمت بشكل كامل .
SOB11	كم عدد الغرف الصفية في المدرسة؟	
SOB12	كم عدد الغرف الصفية المستخدمة حاليا	

	للتدريس والتعليم؟		

SOB13	هل مباني المدرسة والبيئة المحيطة بها نظيفة ومرتبة؟	لا نعم	. .
SOB14	هل هناك حاجة الى عمل صيانة ضرورية؟	لا → نعم	. .
SOB15 15.01 15.02 15.03 15.04 15.05 15.06 15.07	اذا كان الجواب نعم ، اشر على كافة انواع الصيانة المطلوبة؟ [ضع دائرة حول اي خيار تجده مطابق]	شبابيك مكسورة سقف او سطح جدران الصفوف جدران المدرسة بحالة سيئة ساحات المدرسة الأثاث المدرسي اخرى اشرح	. . . .
SOB16	هل المدرسة مزودة بالكهرباء؟ اذا كان الجواب نعم هل تعمل لهذا اليوم؟	لا →	.

		نعم لكنها كانت مقطوعة هذا اليوم	.
		نعم الكهرباء تعمل لهذا اليوم	.

SOB17	اذا كان الجواب نعم ، ما هو مصدر الكهرباء؟ [ضع دائرة حول الجواب الذي تجده مطابقا]		
17.01 17.02 17.03 17.04 17.05		الكهرباء الوطنية المولد كلاهما اخرى اذا اخرى ، اشرح ___________	. . . .
SOB18	ما مصدر مياه الشرب الذي تستخدمه المدرسة؟	لايوجد → بئر كولر/مفلتر مياه	. . .
SOB19	هل تعمل مصادر المياه؟ (هل كان الماء متوفرا أثناء الزيارة	لا نعم	. .

SOB20	كم عدد المرافق الصحية أو المراحيض المتحركة الصالحة للإستخدام؟ المرحاض الصالح للإستخدام هو المرحاض الذي يمكن أستخدامه ولا عطل في، مثلا اذا كان مزود بالسيفون فيجب أن يكون السيفون شغالا	مرافق صحية	SOB23
SOB21	من بين هذه المرافق الصحية القابلة للاستعمال كم منها (ان وجدت) مخصصة للإناث؟	مرافق صحية	
SOB22	هل كانت المرافق الصحية نظيفة؟	غير نظيفة على الاطلاق نظيفة نوعا ما نظيفة جدا	. . .
SOB23	هل توجد مكتبة في المدرسة؟ إذا كان الجواب نعم ؟ فهل كان هنالك تلاميذ يستخدمونها اثناء الزيارة؟	لاتوجد مكتبة في المدرسة توجد لكن لم يكن فيها تلاميذ نعم وكان فيها تلاميذ	. . .
SOB24 24.01		لايوجد	.

24.02 24.03 24.04	هل يوجد هاتف يعمل في المدرسة؟ (ضع دائرة حول الاجابة المطابقة؟)	نعم يوجد هاتف أرضي نعم لدى المدير هاتف نقال أخرى: حدد	. . .
SOB25	هل هناك ساحة للعب؟	لا نعم	. .

SOB26	هل المدرسة محاطة بسور؟	لا نعم ، جزء منها محاط بسور نعم محاطة كلها بسور	. . .
SOB27	هل يوجد حراس للمدرسة؟	لا نعم	. .
SOB26	هل هناك لوحات إرشادية \ لوحات حائط في ساحات المدرسة تقدم المعلومات الإدارية والمهنية الضرورية؟	لا نعم	. .

:	وقت الإنتهاء (أستخدم نظام ال 24 ساعة)	SOB27

مشاهدة الصف الدراسي/ القراءة في المرحلة الأساسية

		الملاحظة												
		1	2	3	4	5	6	7	8	9	10	11	12	13
	وقت بدء المشاهدة													
	وقت انتهاء المشاهدة													
أ. تركيز اهتمام المعلم (اختر بديل واحد فقط)														
1	كل الصف													
2	مجموعة صغيرة													
3	طالب واحد													
4	غير ذلك/ لم يكن تركيزه على الطلبة													
5	لم يكن المعلم في الصف													
ب. المحتوى التعليمي														
6	أصوات فقط (بدون أحرف أو كلمات مكتوبة)													
7	أصوات مع حروف													
8	قراءة حرف داخل الكلمة													
9	قراءة مقاطع داخل الكلمة(طويلة وقصيرة)													
10	قراءة كلمات منفصلة/منفردة													
11	قراءة جمل													

12	مفردات (معاني كلمات)													
13	إملاء													
14	قراءة نصوص													
15	قراءة استيعابية - نص													
16	كتابة نص- تعبير													
17	أشياء أخرى أو غير قابلة للتحديد													
ج.النشاط الذي يقوم به المعلم														
18	القراءة الجهرية													
19	كتابة													
20	شرح													
21	التحدث (لايقوم بالشرح)													
22	الإصغاء الى الطلبة													
23	متابعة / توجيه الطلبة													
24	متابعة الطلبة للتقييم													
25	تفحص أعمال الطلبة الكتابية													
26	أخرى/ سلوكيات غير تعليمية													
د. النشاطات التي يقوم بها الطالب														
27	التكرار / التسميع													
28	الإصغاء أو مشاهدة\النظر للمعلم													
29	طرح الأسئلة													
30	الإجابة عن الأسئلة													
31	النقل عن السبورة													
32	الكتابة على السبورة													
33	مشاركة الطلبة جميعهم في حل المشكلة													
34	العمل في مجموعات صغيرة													

35	نشاط فردي													
36	قراءة جهرية جماعية													
37	قراءة جهرية فردية													
38	قراءة صامتة													
39	الكتابة على ورقة أو في الكتاب أو الدفترالخاص													
40	أنشطة تعليمية أخرى (مشاريع ، ألعاب تعليمية ، الخ)													
41	أنشطة لا تتعلق بالدرس (تحدث، نوم، لعب)													
هـ. مصادر التعلم														
41	سبورة													
42	كتاب مدرسي													
43	كتاب آخر													
44	أوراق عمل													
45	بطاقات تعليمية (فلاش كارد)													
46	ملصقات، بوسترات/ لوحات حائط													
47	لوحات جيوب													
48	حروف أبجدية أو كلمات ممغنطة													
49	دفتر الطلاب													
50	تقنيات تعليمية/حاسوب													
51	أخرى													

مشاهدة الصف الدراسي/ حساب في المرحلة الأساسية

		الملاحظة												
		1	2	3	4	5	6	7	8	9	10	11	12	13
وقت بدء المشاهدة														
وقت انتهاء المشاهدة														
تركيز اهتمام المعلم (اشارة واحدة فقط)														
1	كل الصف													
2	مجموعة صغيرة													
3	طالب واحد													
4	غير ذلك/ لم يكن تركيزه على الطلبة													
5	لم يكن المعلم في الصف													
المحتوى التعليمي														
6	قراءة الأعداد غيباً (أغنية)													
7	عدّ أشياء ملموسة													
8	قراءة الأعداد المكتوبة													
9	كتابة الأعداد													
10	مقارنة الأعداد													
11	الجمع- منزلة واحدة													
12	الجمع - منزلتين أو أكثر													
13	الطرح- منزلة واحدة													
14	الطرح- منزلتين أو أكثر													

15	الضرب													
16	القسمة													
17	الكسور													
18	القياس (الوقت، النقود)													
19	تمثيل الأعداد (باستخدام خط الأعداد)													
20	الأنماط													
21	مسائل كتابية													
22	التعامل مع البيانات (الاشكال البيانية)													
23	الهندسة (الأشكال وخصائصها)													
24	أخرى / لا أعلم													

النشاط الذي يقوم به المعلم														
25	التكرار/ التسميع													
26	الكتابة على السبورة													
27	الشرح													
28	القراءة													
29	الإصغاء الى الطلاب													
30	طرح الأسئلة													
31	متابعة / توجيه الطلاب													
32	أمور غير تعليمية (ضبط السلوك... الخ)													
33	أخرى													
النشاطات التي يقوم بها الطالب														
34	التكرار/ التسميع													
35	الاصغاء/ مشاهدة المعلم													
36	طرح الأسئلة													
37	الاجابة عن الأسئلة													
38	النقل عن السبورة													
39	الكتابة على السبورة													
40	نقاش وحوار جماعي													
41	العمل في مجموعات صغيرة													
42	نشاط فردي													
43	أخرى- (مشاريع، ألعاب،... الخ)													
44	بعيداً عن الدرس (تحدث، نوم، لعب)													
المواد المستخدمة														

45	السبورة/ اللوح الأبيض													
46	كتاب مدرسي													
47	كتب نشاط/ أوراق عمل													
48	بطاقات خاطفة													
49	ملصقات/ لوحات حائط													
50	ألعاب تعليمية يدوية													
51	تكنولوجيا المعلومات(آلة حاسبة، حاسوب)													
52	ألواح													
53	اشكال أو قطع معناطيسية													
54	دفتر ملاحظات الطالب													
55	أخرى													

	أداة تقييم المقتنيات الصفية	
CIN9	**وقت بدء التقييم (استخدم نـظام ال ٢٤ ساعة)**	
CIN10	تاريخ إجراء الملاحظة	تاريخ المقابلة اليوم | الشهر | السنة
CIN11	كم طالب من الذكور كان حاضرا في الصف أثناء اجراء التقييم **(أطلب من الطلاب الذكور الوقوف وقم بعدهم بنفسك)**	طلاب
CIN12	كم طالبة كانت حاضرة في الصف أثناء اجراء التقييم **(أطلب من الطالبات الوقوف وقم بعدهن بنفسك)**	طالبات
CIN13	حتى تحصل على العدد المتوفر من الكتب المدرسية ، أطلب من الطلاب أن يمسك كل منهم بكتاب اللغة العربية وأن يرفعه الى الاعلى (لو تطلب الامر أطلب أن يتم إخراج كتب اللغة العربية من الخزانة وأن يتم توزيعها كالعادة الى الاطفال)	
CIN13.01	عدد الطلاب الذين يملكون كتاب اللغة العربية المدرسي	
CIN14	رجاءً أطلب من الطلاب الامساك بكتاب الرياضيات ورفعه عاليا في الهواء(إذا تطلب الامر أطلب إخراج كتاب الرياضيات من الخزانة آو حقيبة الطالب وتوزيعه على الطلاب كالعادة)	
CIN14.01	عدد الطلاب الذين لديهم كتاب رياضيات	
CIN15	هل يمتلك الطلاب الاشياء التالية؟ **أطلب منهم رفع الاشياء في الهواء واحدة تلو الاخرى**	
CIN15.01	**عدد الطلاب الذين لديهم كراسة اللغة العربية**	
CIN15.02	**عدد الطلاب الذين لديهم كتاب الرياضيات**	
CIN15.03	**عدد الطلاب الذين لديهم قلم رصاص**	

CIN16	هل يمتلك المعلم الاشياء التالية؟ (ضع دائرة حول المواد التي يمتلكها المعلم)			
CIN16.01		سبورة سوداء او بيضاء		1
CIN16.02		طباشير للوحة السوداء / قلم ماركر للوحة البيضاء	.	1
CIN16.03		قلم رصاص/ قلم حبر	.	1
CIN16.04		دفتر ملاحظات	.	1
CIN16.05		كتاب اللغة العربية	.	1
CIN16.06		كتاب الرياضيات	.	1
CIN17	إسأل المعلم:هل بإمكاني رؤية دفتر التحضير اليومي؟			
	إذا كان الدفتر مع مدير المدرسة او في غرفة المعلمين يجب على المعلم إحضاره عند نهاية ملاحظة الصف مباشرة.	رفض / ليس لديه دفتر تحضير	.	0
		→		
		□	اذهب الى سؤال رقم ١٩	
		لا		
		نعم	.	1
CIN18	اذا كان الجواب نعم ، يرجى الاجابة على الاسئلة التالية بحسب ملاحظتك لدفتر التحضير			
CIN18.01	هل توجد خطة فصلية للمبحث في بداية دفتر التحضير؟	لا	.	0
		نعم	.	1
CIN18.02	ما تاريخ اخر خطة كتبت للدرس؟		اليوم / الشهر	
		لا يوجد أشارة للتواريخ في خطط الدروس	.	1
		لا يوجد خطط للدروس في الدفتر		2
CIN18.03	هل وقع المدير أو مساعد المدير على اخر خطة للدرس ؟	لا	.	0
		نعم	.	
CIN19	كم عدد الكتب / الكراسات من غير الكتب المدرسية المتوفرة للطلبة للقراءة؟	لاتوجد	.	0
		1-4	.	1
		5-9	.	2

		10-19	.	3
		20-39	.	4
		40+	.	5
CIN20	كم عدد المجلات المتوفرة للطلبة للقراءة داخل غرفة الصف؟	لاتوجد	.	0
		1-4	.	1
		5-9	.	2
		10-19	.	3
		20-39	.	4
		40+	.	5
CIN21	هل تعرض أعمال الطلاب على لوحات الحائط؟	لا	.	0
		نعم	.	1
CIN22	حدد أيّ من قطع الاثاث التالية متوفرة للطلاب؟	لا يتوفر مقاعد (يجلسون على الارض)	.	0
		يتوفر أدراج	.	1
		يتوفر كرسي بطاولة	.	2
		يتوفر كراسي فقط بدون طاولات	.	3
		يتوفر مقاعد متنوعة	.	4
		يتوفر خزائن	.	5
		يتوفر رفوف	.	6
CIN23	هل يتوفر عدد كاف من المقاعد لجميع الطلاب **(تأكد ما إذا كان هنالك أي طلبة يجلسون على الارض أو أن أكثر من طالب يجلسون في نفس المقعد)**	لا	.	0
		نعم	.	1
		→		
			اذهب الى سؤال ٢٥	
CIN24	اذا كان الجواب لا ، أشر الى وضع جلوس الطلبة **(ضع دائرة حول الخيارات المناسبة)**			
CIN24.01		يجلس الطلاب على الارض	.	1
CIN24.02		الطلاب واقفون	.	1
CIN24.03		يجلس أكثر من طالب على مقعد واحد	.	1

1	.	يجلس الطلبة على أدراج أو يتناوب الطلبة على الجلوس على المقعد الواحد		CIN24.04
0	.	لايتوفر طاولات ولا ادراج\مقاعد	حدد طريقة ترتيب الطاولات أو المقاعد في الصف؟	CIN25
1	.	على شكل صفوف		
2	.	مجموعات صغيرة		
3	.	على شكل دائرة		
4	.	على شكل حرف		
5	.	أخرى/ أشرح		
	:		وقت انتهاء الملاحظة **(أستخدم نظام ال ٢٤ ساعة)**	CIN26

Annex C: Sample Design and Weighting

This annex presents additional details about the sample design for the Jordan 2012 EGRA-EGMA-SSME study.

Stage1: Sample Selection and Weighting of Schools

The Jordan Education Management Information Systems (EMIS) unit provided a list of all public primary schools in the nation, totaling 2,227 schools. Of these, 162 schools were removed from the list because they did not have grade 2 enrollment, and 31additional schools were removed because they did not have a grade 3 enrollment. A total of 2,043 schools remained in the final population, from which a study sample was drawn. The 2,043 schools contained an estimated 175,571 grade 2 and grade 3 students.

Before drawing the random sample of schools to be included in the study, the 2,043 schools were stratified by region (North, Middle, and South) and school gender (all-boys, all-girls, and mixed schools) to form nine strata. For each region, the goal was to draw a sample of 15 all-boys schools, 15 all-girls schools, and 20 mixed schools, to allow for maximum statistical power within each stratum. However, because of the small number of all-girls schools and all-boys schools in the South, only 11 all-boys schools and 14 all-girls schools were selected in that region. Additional schools were added to different strata that resulted in a total of 156 randomly sampled schools (see ***Table C2)***, and 3,063 students (see ***Table C3*** and ***C4*****).**

Within each stratum, schools were sorted by district and the combined enrollment of grades 2 and 3. Schools were then selected with probability proportional to grade 2 and grade 3 enrollment. For each selected school, two replacement schools were selected, to be used if the sampled school were not available to participate or were not eligible. A total of nine schools were replaced for the following reasons: six schools did not have grade 2 or grade 3 enrollment; two schools were assessed during the pilot study; one school was closed indefinitely.

The sample's overall proportion of the population is not relevant in large populations, and the sample of 3,063 students provided extremely high precision for all EGRA and EGMA estimates. ***Table C1*** provides the means and 95% confidence intervals for the EGRA outcomes, as an example. Typically, a 95% confidence band width of ±3.5 is considered an acceptable precision for oral reading fluency (ORF). For example, a mean ORF score of 19.4 would have an acceptable 95% confidence internal of (15.9, 22.9). Table C1 shows the 95% confidence interval is even more precise (17.9, 20.8) than the acceptable level.

Table C1. EGRA means and 95% confidence intervals

EGRA Subtask	N	Mean	95% Confidence Interval
Correct Letters Sounds Per Minute	3059	26.4	(24.8, 28.0)
Correct Invented Words Per Minute	3058	5.7	(5.0, 6.3)
Oral Reading Fluency	3044	19.4	(17.9, 20.8)
Total correct Reading Comprehension questions.	2895	2.5	(2.3, 2.6)
Total correct Listening Comprehension questions.	2819	2.5	(2.4, 2.7)

To make the sample representative of the national population, school weights were calculated as the inverse of the selection probability of the school (Weight1, Stage 1 selection) and then scaled to the total number of schools for each stratum. ***Table C1*** shows that the weighted counts and percentages of the sampled schools in each stratum are, in fact, representative of the population.

$$Weight\_School = Weight1 \cdot Scaled\ School\ Weight$$

Where: Weight1(s, i) represents the weight of the first stage of selection.

$$Weight1(s,i) = \frac{[Total\ Number\ of\ Grade2 + Grade3\ students]\ in\ Stratum(s)}{[Number\ Grade2 + Grade\ 3\ in\ Selected\ School(i)]}$$

$$Scaled\ School\ Weight(s) = \frac{[Sum\ of\ Weight1\ of\ All\ Schools]\ in\ Stratum(s)}{[Total\ Number\ of\ Grade2 + Grade3\ students]\ in\ Stratum(s)}$$

$$s = 1\ to\ 9\ strata$$

$$i = 1\ to\ 156\ sampled\ Schools$$

Table C2. Number of total schools in the population* and sampled schools by region and school-gender

Nine strata by region and school-gender	Population		Sample		
	Total number of schools	Percentage of schools (%)	Sampled number of schools	Weighted number of schools	Weighted percentage of sampled schools (%)
Middle-all boys	157	7.7	16	157	7.7
Middle-all girls	133	6.5	15	133	6.5
Middle-mixed	512	25.2	23	512	25.2
North-all boys	178	8.8	15	178	8.8
North-all girls	143	7.0	15	143	7.0
North-mixed	541	26.6	20	541	26.6
South-all boys	13	0.6	11	13	0.6
South-all girls	22	1.1	14	22	1.1
South-mixed	335	16.5	27	335	16.5
Total	**2,034**	**100.0**	**156**	**2,034**	**100.0**

*Population counts are based on Jordan EMIS data after removing schools with no grade 2 or grade 3 enrollment.

Stage2: Sample Selection and Weighting of Class/Teacher

The second stage of selection involves sampling class/teachers within each sampled school. After the research team arrived at each selected school, all of the grade 2 classes were listed and one grade 2 class was selected at random with equal probability. The selection process was repeated for the grade 3 class. Because the total number of classes by grade was not available in the EMIS data, it was not possible to scale the class/teacher weights to the region level. Therefore, the class/teacher weights for each school grade were created by multiplying the school weights by the total number of classes found in the school.

$$ClassTeacher\ Weight(i,j) = School\ Weight(i) \cdot Weight2(j)$$

Where: Weight2 (j) represents the weight of the second stage of selection given the school was selected.

$$Weight2(j) = \frac{Total\ Number\ of\ Classes\ in\ \ Grade\ (j)}{Sampled\ Number\ of\ Classes\ in\ \ Grade(j)}$$

j= 1 to 306 sampled grades 2 and 3.

Stage 3: Sample Selection and Weight of Students

The third stage of selection randomly sampled students who were present on the day of assessment. Students were stratified prior to selection and were selected with equal probability. After a grade 2 class was randomly selected, an assessor would go to the selected class and randomly select 10 students from that class. If 10 or fewer students were present that day, the assessor would automatically select all of the students in that class. The same procedure was followed for the grade 3 class.

The students weights were calculated by multiplying the class/teacher weight by the probability of selecting the student. This was then multiplied by the student scaled weights to guarantee that the sampled students were representative of the population at the national level. Grade 2 representation can be seen in ***Table C2*** and grade 3 representation is presented in ***Table C3***.

$$Student\ Weight(j,t) = ClassTeacher\ Weight(j) \cdot Weight3(j) \cdot Student\ Scaled\ Weight(t)$$

Where: Weight2 (j) represents the weight of the third stage of selection given that the school and class were selected.

$$Weight3(j) = \frac{Total\ Number\ of\ Students\ in\ Grade(j)}{Sampled\ Number\ of\ Students\ in\ Grade(j)}$$

$$Scaled\ School\ Weight(t) = \frac{\lfloor Sum\ of\ Weights\ of\ Selected\ Students \rfloor in\ Stratum, Grade(t)}{[Total\ Number\ of\ Students]in\ Stratum, Grade(t)}$$

t=1 to 18 strata and grade. (9 strata*2 grades).

Table C3. Number of total grade 2 students in the population* and sampled number of grade 2 students by region and school-gender.

Nine strata by region and school-gender	Population		Sample		
	Total grade 2 students	Percentage of grade 2 students (%)	Sampled number of grade 2 students	Weighted number of grade 2 students	Weighted percentage of grade 2 students (%)
Middle-all boys	8,033	8.9	160	8,033	8.9
Middle-all girls	8,328	9.2	151	8,328	9.2
Middle-mixed	32,936	36.5	222	32,936	36.5
North-all boys	5,721	6.3	150	5,721	6.3
North-all girls	5,865	6.5	150	5,865	6.5
North-mixed	17,851	19.8	198	17,851	19.8
South-all boys	603	0.7	104	603	0.7
South-all girls	870	1.0	130	870	1.0
South-mixed	10,086	11.1	264	10,086	11.1
Total	**90,293**	**100.0**	**1,529**	**90,293**	**100.0**

*Population counts are based on Jordan EMIS data after removing schools with no grade 2 or grade 3 enrollment.

Table C4. Number of total grade 3 students in the population* and sampled number of grade 3 students by region and school-gender.

Nine strata by region and school-gender	Population		Sample		
	Total grade 3 students	Percentage of grade 3 students (%)	Sampled number of grade 3 students	Weighted number of grade 3 students	Weighted percentage of grade 3 students (%)
Middle-all boys	9,557	11.2	160	9,557	11.2
Middle-all girls	8,385	9.8	152	8,385	9.8
Middle-mixed	28,970	34.0	232	28,970	34.0
North-all boys	6,506	7.6	151	6,506	7.6
North-all girls	5,881	6.9	146	5,881	6.9
North-mixed	15,233	17.9	195	15,233	17.9
South-all boys	520	0.6	104	520	0.6
South-all girls	804	0.9	130	804	0.9
South-mixed	9,422	11.1	264	9,422	11.1
Total	**85,278**	**100.0**	**1,534**	**85,278**	**100.0**

*Population counts are based on Jordan EMIS data after removing schools with no grade 2 or grade 3 enrollment.